Chapter 4

City of Sacramento SQIP

4.1 Introduction

4.1.1 Plan Organization

This chapter presents the City of Sacramento Stormwater Quality Improvement Plan (Sacramento City SQIP). The activities described in this chapter are conducted by Sacramento City in addition to the Partnership (Regional) Activities described in Chapter 2. The Sacramento City SQIP provides a comprehensive plan to direct the Sacramento City Stormwater Management Program (Sacramento City Stormwater Program) and its priorities and activities through the 2008-2013 permit term. The Sacramento City SQIP also includes information on the Sacramento City Stormwater Program's history and accomplishments.

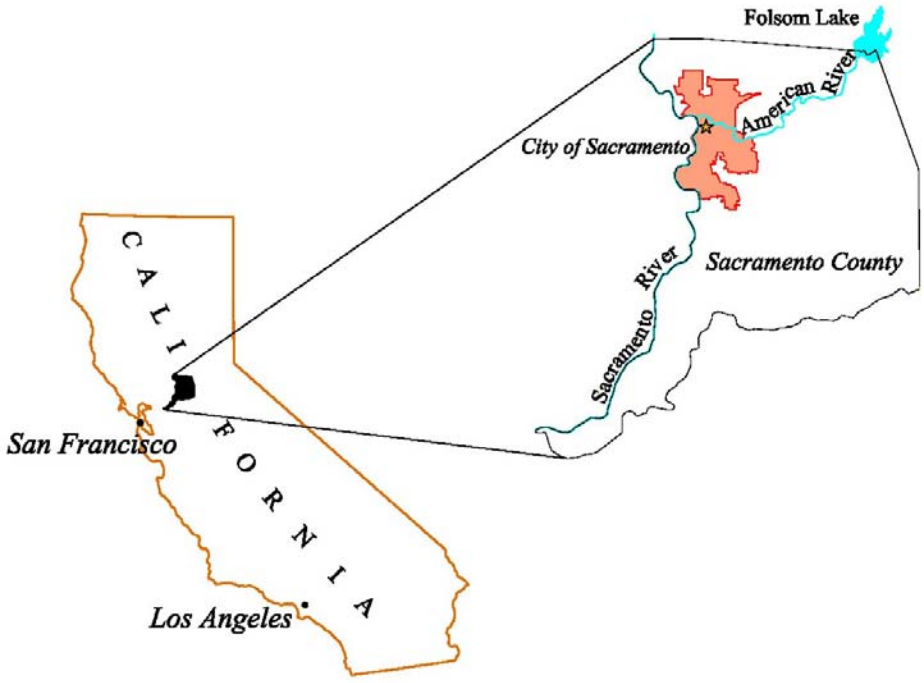
This chapter describes Sacramento City's specific activities for the 2008-2013 permit term and includes the following sections:

- Section 4.1 Introduction
- Section 4.2 Program Management
- Section 4.3 Construction Element
- Section 4.4 Commercial/Industrial Element
- Section 4.5 Municipal Operations Element
- Section 4.6 Illicit Discharge Element
- Section 4.7 Public Outreach Element
- Section 4.8 New Development Element

4.1.2 City Overview

Sacramento City has a population of approximately 476,000 as of January 2008 and encompasses approximately 63,360 acres. Sacramento City is located at the confluence of the lower American River and the Sacramento River (see Figure 4.1-1 on the next page). The lower American River is a high-quality waterway that flows from the Folsom Reservoir westward through Sacramento City. The larger Sacramento River defines Sacramento City's western boundary, flowing south on its way to the Delta and the San Francisco Bay. These rivers provide Sacramento City's primary drinking water supply and support extensive recreational use, fisheries, and salmon and steelhead migration. The Sacramento River is also the major drinking and agricultural water supply source for the State of California.

Figure 4.1-1
Vicinity Map of Sacramento, California



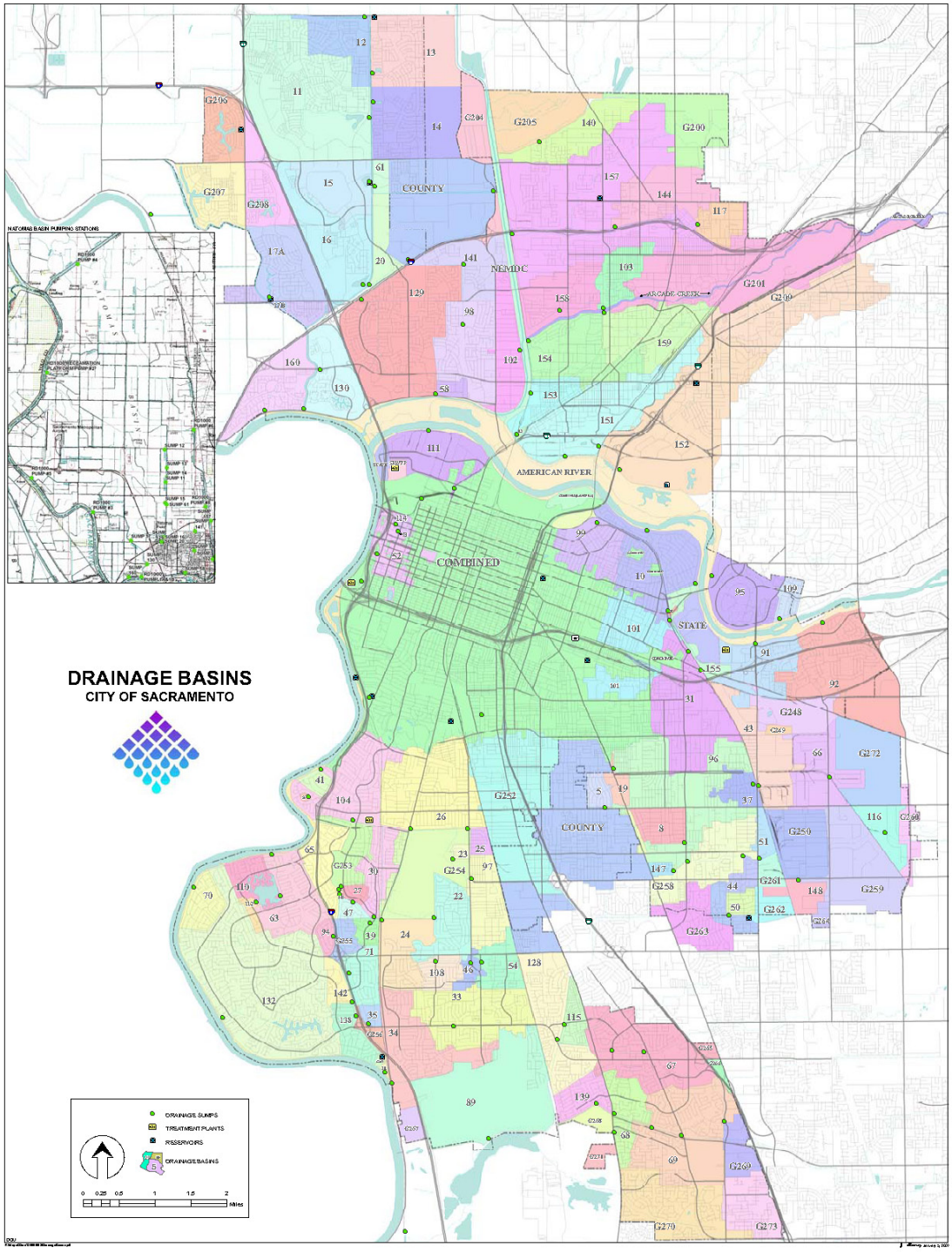
Sacramento City operates and maintains a large municipal storm drainage system that consists of 104 pump stations, hundreds of miles of pipe, and numerous detention basins. For almost two decades, Sacramento City has committed to improving the quality of urban runoff through the development and implementation of a proactive, comprehensive stormwater management program that recognizes Sacramento's unique position in the Sacramento River and the American River watersheds and the need to protect these important resources.

City of Sacramento Storm Drainage System

- 65 miles of canals and ditches
- 100 miles of roadside ditches
- 970 miles of pipeline
- 104 storm drainage pump stations
- 40,000 drain inlets
- 26 detention basins

Drainage facilities include gutters, swales, ditches, culverts, storm drain inlets, catch basins, storm drainage pipes, canals, detention basins, and pump stations. Since much of Sacramento City is in low lying areas protected by flood control levees, most of the storm runoff in Sacramento City must be pumped from the collection system to discharge into the rivers and urban creeks. Runoff from the central area of Sacramento City is collected by a combined storm and sanitary sewer system and conveyed to the Sacramento County Regional Sanitation District for treatment. The combined sewer system is regulated under a separate National Pollution Discharge Elimination System (NPDES) permit and not by the Stormwater Permit for Sacramento's City urban stormwater. Figure 4.1-2 on the next page provides a map of the City that shows the combined sewer area, and stormwater drainage areas.

Figure 4.1-2
City of Sacramento Drainage Basins and Facilities



4.1.3 Program Overview

The City of Sacramento Stormwater Management Program is a federally mandated, municipal effort that has proactively addressed local urban runoff water quality issues and worked to reduce pollutants to the maximum extent practicable through innovative, cost-effective measures and strategies.

Sacramento City's initial emphasis for its stormwater program was to develop a comprehensive program, secure political support and stable funding, and design the basic program structure under which activities would be implemented. Many innovative programs and activities have been initiated since the program's inception. A core program has evolved to implement activities that are essential, innovative and cost effective.

Established Core Program

- *Meets state/federal regulations.*
- *Improves understanding of local creek and river water quality concerns.*
- *Creates strategies to identify and control problematic pollutants.*
- *Utilizes innovative and cost-effective BMPs.*
- *Increases integration with other programs with related objectives.*

After nineteen years, the Sacramento City Stormwater Program has become a mature, established effort that effectively reduces pollutants to the MEP by continuing to implement successful control measures and develop and utilize new, innovative best management practices (BMPs).

In 1997 and again in 2004, the Program was honored with the U.S. Environmental Protection Agency (EPA) National Storm Water Control Program Excellence Award for its cost-effective, proactive approach to identifying and controlling pollutants in Sacramento City's urban runoff.

The Sacramento City Stormwater Program core elements are: Construction, Commercial/Industrial, Municipal Operations, Illicit Discharge, Public Outreach, and New Development. Other major Sacramento City Stormwater Program activities also include Regional Activities, such as the Sacramento Stormwater Monitoring Program (Monitoring Program) and the Target Pollutant Program.

The Sacramento City Stormwater Program recognizes the importance of effective stormwater management and has allocated resources to ensure adequate administration and implementation of program activities. Management of the Sacramento City Stormwater Program is provided by the Department of Utilities (DOU) Engineering Services Division, Water Quality Section.

4.1.4 Summary of Program Accomplishments

As the Sacramento City Stormwater Program has progressed, many stormwater activities have been successfully integrated into Sacramento City activities, leaving Sacramento City Stormwater Program staff available to further develop BMPs, provide training and guidance, and develop monitoring and other special studies. Examples of activities integrated with other Sacramento City efforts include master planning, development review, inspection of drainage facilities, spill response, oversight of municipal construction activities, and solid waste management alternatives for illegal dumping.

In addition to coordination with other Sacramento City activities, interagency agreements have been formed with some County of Sacramento agencies for efforts such as the Sacramento Coordinated Monitoring Program (CMP); Business Environmental Resource Center (BERC); the Water Wise Integrated Pest Management Program; and the Splash Program. Other coordination efforts include the County Industrial Waste Division (sewer pretreatment), Hazardous Materials Division, and Environmental Management Division (food service facility) inspections. Some of these activities are conducted as joint efforts with the other Permittees. More details on some of these activities can be found in Section 4.2, Program Management, of this Chapter.

A comprehensive summary list of Sacramento City Stormwater Program accomplishments by Program Elements is included in Appendix 4A. A complete history of the permit and the Partnership's efforts to manage urban runoff quality over the years is included in Appendix 1C.

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4.2 Program Management

4.2.1 INTRODUCTION

This section presents the City of Sacramento Stormwater Management Program's (Sacramento City Stormwater Program) strategy, management priorities, legal authority, organization, interrelationships, planning and reporting activities, budget and staff resources, and staff training.

4.2.2 PROGRAM STRATEGY

The Sacramento City Stormwater Program strategy is to develop and implement programs to reduce or eliminate discharge of pollutants and eliminate prohibited non-stormwater discharges to the Sacramento City's storm drainage system to the maximum extent practicable (MEP), thereby protecting local receiving waters and complying with federal and state laws and regulations.

This strategy supports the following Sacramento City Program vision and mission statements:

Program Management

- *Provides direction for the Sacramento City Stormwater Program activities.*
- *Ensures that Sacramento City complies with both state and federal regulations.*
- *Pursues innovative programs and technology.*
- *Coordinates efforts with other local, regional, statewide, and national programs.*

VISION

Establish behaviors and attitudes that contribute to the reduction of urban runoff pollution and that help promote community stewardship of local creeks and rivers, thus improving the health of local waterways.

MISSION

Provide resources and direction toward achieving:

- Reduction of stormwater pollution to the maximum extent practicable (MEP)
- Elimination of non-stormwater discharges in accordance with the Sacramento Stormwater Permit
- Ultimately, protection of beneficial uses to include meeting applicable water quality objectives

Sacramento City Stormwater Program activities encourage environmental stewardship and continue to build partnerships with other agencies and with the community to foster active participation in accomplishing the Sacramento City Stormwater Program mission. One of the goals of the Sacramento City Stormwater Program in accomplishing the mission is for all of Sacramento City's employees to be concerned and knowledgeable as well as responsible stewards for protecting the quality of local water resources.

Stormwater Quality Improvement Plan (Sacramento City SQIP)

The Sacramento City Stormwater Program strategy is pursued through the Sacramento City SQIP described in this chapter as well as through the implementation of regional activities described in Chapter 2, Partnership Activities, which are implemented collectively by the Permittees. The Sacramento City SQIP is an enforceable part of the Stormwater Permit that undergoes periodic modifications as part of the program implementation cycle to ensure the mission is effectively accomplished.

Program Implementation Cycle

As discussed in Chapter 1, the following 4-step cycle allows for effective implementation and provides a continuous feedback loop.

Step 1: Plan and Develop

The SQIP programs, elements and activities are planned and developed to meet regulatory and local needs to address stormwater pollution. The SQIP and annual work plans are prepared to identify specific activities, tasks and performance standards.

Step 2: Implement Activities

The activities included in the SQIP and annual work plans are implemented.

Step 3: Evaluate and Assess

Progress is documented, program effectiveness is assessed, and feedback is obtained for future improvements to the program. See Section 2.3, Program Effectiveness and the individual elements for the Sacramento City effectiveness assessment approach

Step 4: Refine and Modify

New or revised activities are developed based on the results of the effectiveness assessments, input from regulators, and new identified needs. Some activities may also be eliminated during this step. As specified in the Stormwater Permit, the annual reports submitted on October 1 of each year will serve as the mechanism for proposing modifications to this SQIP for review and approval by the Regional Water Board.

4.2.3 Program Management Priorities

Sacramento City Stormwater Program priorities for the 2008-2013 permit term include implementing the Sacramento City SQIP and the Partnership activities. The Sacramento City Stormwater Program Management Activities and schedule are listed in Table 4.2-4, City of Sacramento Program Management Activities Work Plan.

A summary of the Sacramento City Stormwater Program Management priorities are as follows:

Achieve regulatory compliance:

- Submit annual work plans, annual reports and other documentation to the Regional Water Board.
- Complete permit-required activities.
- Ensure adequate staffing and resources to carry out Sacramento City Stormwater Program activities.
- Ensure adequate legal authority
- Seek and administer grants.
- Keep Sacramento City SQIP up-to-date.
- Implement enforcement procedures.

Focus Program activities on target pollutant reduction:

- Seek and participate in partnerships to conduct studies and implement target pollutant reduction programs.
- Seek new, effective target pollutant control measures and strategies.
- Continue to implement target pollutant control measures and strategies.
- Participate in regional, state, and national efforts to reduce target pollutants.

Ensure the Program is effective and innovative:

- Consider new technology for program improvements.
- Continue coordination with internal and external partners.
- Participate in local and regional committees and work groups.
- Utilize data management tools to improve the evaluation of water quality data.
- Evaluate activities, elements and program for effectiveness in meeting outcome levels.
- Make changes to activities, elements and program based on effectiveness evaluations.
- Look for and report measurable results.
- Emphasize higher outcome levels for key indicators.

Conduct watershed stewardship and monitoring activities to assess and improve beneficial uses of local creeks and rivers:

- Implement the Arcade Creek Watershed grant.
- Continue to incorporate watershed stewardship activities into Sacramento City Stormwater Program Elements.

- Manage the Regional Monitoring Program in partnership with County of Sacramento.
- Identify monitoring needs.
- Coordinate with other local monitoring programs and Sacramento City's own drinking water and source water protection studies and efforts.

4.2.4 Program Effectiveness Assessment

The Partnership's effectiveness assessment approach is discussed in Section 2.3, Program Effectiveness. The Partnership activities will be assessed as outlined in Section 2.4 through 2.7. Assessments of Sacramento City-specific and Partnership (regional) activities will be conducted annually.

Sacramento City will document the work plan activities conducted during the year in the annual reports. This confirmation will demonstrate compliance with the Stormwater Permit requirements (outcome level 1 – Documenting Activities).

Each program element has identified several key indicators used in assessments to demonstrate progress towards meeting the program element goals. The Sacramento City SQIP includes Element key indicators as representative activities used to define and assess the effectiveness of a program element in producing outcome levels ranging from outcome level 2 – Raising Awareness to outcome level 4 – Reducing Loads from Sources. See the work plan tables found at the end of each element's section in this Chapter for the specific element key indicators (indicated by a checkmark) and their assessment method, baseline data, and targeted outcome level).

Sacramento City will modify the planned schedule and execution of tasks (including key indicators) during the permit term as program priorities change. Any change to the planned activities as currently outlined in the work plan tables will be documented in subsequent annual work plan(s) and reported upon in the annual report(s).

4.2.5 Legal Authority

The principal regulatory vehicles for protection of water quality in California are the federal Clean Water Act and the State of California Porter-Cologne Water Quality Control Act. This legislation and implementing regulations require the Sacramento City reduce or eliminate pollutant stormwater discharges. Sacramento City derives its legal authority to implement a municipal stormwater management program from the California Water Code and the California Environmental Quality Act and Subdivision Map Act that provides municipalities with authority to establish conditions for development projects. This legislation, coupled with Sacramento City's local ordinances, provides sufficient legal authority to implement the SQIP. The City of Sacramento Stormwater Management and Discharge Control Ordinance No. 98-007 and Grading and Erosion and Sediment Control Ordinance No. 93-068 are provided in Appendix 4B and 4C respectively. Sacramento City ordinances are reviewed and revised throughout the permit term.

Appendix 4D includes the statement certified by the City of Sacramento Attorney's Office that Sacramento City has adequate legal authority to implement and enforce the Stormwater Permit.

As discussed in Section 2.2, the Permittees entered into a memorandum of understanding (MOU) that formalizes the manner in which the Permittees coordinate and fund regional activities required in the Stormwater Permit. See Appendix 2A for a copy of the Permittee MOU. Sacramento City also entered into an MOU in 2003with Sacramento County's Environmental Management Division (EMD), authorizing EMD to conduct inspections on behalf of Sacramento City. See Appendix 4E for a copy of the EMD MOU.

4.2.6 Program Organization

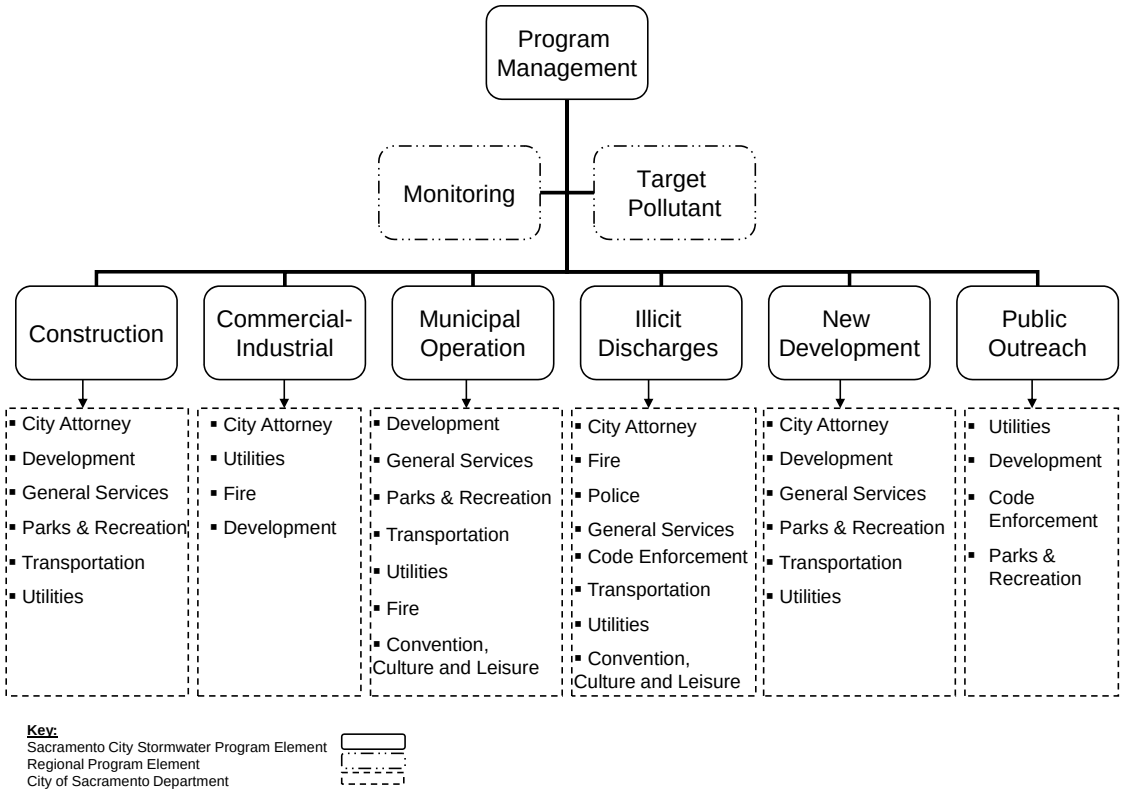
The Sacramento City Stormwater Program includes the Construction, Commercial/Industrial, Municipal Operations, Illicit Discharge, Public Outreach, New Development Elements and regional activities. The regional activities, such as the monitoring and target pollutant programs, are discussed in Chapter 2. The Sacramento City Stormwater Program organization and structure is shown on Figure 4.2-1. The figure includes a list of the various departments within Sacramento City that implement components of the Stormwater Permit or are affected by the stormwater requirements. Some City departments have direct responsibilities for pollution prevention programs (for example, the Department of Utilities provides recycling, household hazardous waste collection, and street sweeping programs through its Solid Waste Division).

Sacramento City as a whole, including elected officials, department heads and city employees, is responsible for compliance with the Stormwater Permit requirements and the Sacramento City SQIP. The organizational structure for the City is provided in Appendix 4F.

Sacramento City owns the municipal separate storm drain system subject to federal and state regulations, which is described in Section 4.1.1 of this chapter. The Department of Utilities (DOU) is Sacramento City's agency responsible for construction, maintenance and operation of the storm drainage system as well as the administrative and management functions of the Sacramento City Stormwater Program. Direct management of the Sacramento City Stormwater Program is provided by the DOU Engineering Services Division, Water Quality Section.

The Supervising Engineer for the Water Quality Section is the Sacramento City Stormwater Program Manager, and is responsible for the Sacramento City Stormwater Program development and implementation. Water Quality Section staff assignments include responsibilities associated with the Program Elements; Partnership Activities such as the Monitoring Program and the Target Pollutant Program; as well as assistance with other program management activities (e.g., coordination with other agencies).

Figure 4.2-1
City of Sacramento Stormwater Management Program Organization and Interdepartmental Relationships



4.2.7 Program Interrelationships

Since program implementation effectiveness and cost savings are enhanced by integrating the Sacramento City Stormwater Program with existing resources, programs and functions whenever possible; other staff from the five divisions of the DOU - Engineering Services, Field Services, Plant Services, Solid Waste and Business Services - as well as staff from several other Sacramento City departments and regional agencies also provide significant levels of resources and support services to ensure successful citywide implementation of the Sacramento City Stormwater Program. The Program Management Element ensures coordination between program elements and allocates resources accordingly in order to complete tasks as specified in this SQIP. Table 4.2-1 provides a comprehensive list of Sacramento City Stormwater Program interrelationships with other agencies and departments.

Table 4.2-1
City of Sacramento Stormwater Management Program Coordination with City Departments and Other Agencies

City Departments / Other Local Agencies	Summary of Activities	Major Related Stormwater Management Program Elements
City Department		
City Attorney	Guidance on legal authority and enforcement, approval of maintenance agreements for new development control measures	Construction, Illegal Discharge, Commercial/Industrial, New Development, Program Management
Fire	Hazardous material spill response	Illegal Discharge, Industrial
Code Enforcement	Code enforcement, support for illegal discharge, neighborhood clean-up events and other community programs	Illegal Discharge, Public Education, Watershed Stewardship
Parks and Recreation	Pollution prevention activities, joint-use detention basins, storm drain stenciling and creek restoration projects, construction of park facilities	Construction, Illegal Discharge, New Development, Public Education, Watershed Stewardship
Police	Enforcement, referrals and investigations	Illegal Discharge
Development • Building and Engineering	Issuance of grading permits, collection of fees, private construction inspections, distribution of stormwater pollution prevention brochures	Construction, New Development, Commercial/Industrial, Municipal Operations, Public Outreach
• Planning (including environmental review)	Incorporation of construction mitigation and new development criteria into CEQA reviews and entitlements, issuance of entitlements, participation in creek restoration planning	Construction, New Development, Commercial/Industrial, Municipal Operations, Watershed Stewardship
General Services • Facility leases or construction	Incorporation of pollution prevention into site planning and activities	Municipal Operations, New Development, Construction, Industrial
• Maintenance Services	Administration and implementation of pollution prevention at City facilities, corporation yards	

City Departments / Other Local Agencies	Summary of Activities	Major Related Stormwater Management Program Elements
Transportation • Capital Improvements	Inspection of public projects for construction and new development controls, public facilities design, issuance of grading permits	Construction, New Development, Illicit Discharge
• Maintenance Services	Administration and implementation of pollution prevention at City corporation yards	Construction, New Development, Municipal Operations
Utilities • Solid Waste	Curbside recycling (including Curb Your Crude Program), recycling and household hazardous waste programs, operation of household hazardous waste collection center, composting program, educational programs, street sweeping	Illicit Discharge, Municipal Operations, Public Outreach
• Engineering Services	Incorporation of construction and post construction control measures not City Projects, development project review, inspection of private development and City Projects, administration of City's NPDES Stormwater Permit	Construction, Commercial/Industrial, Municipal Operations, New Development, Watershed Stewardship
• Plant Services	Pump station sediment cleaning and sample collection, illegal discharge reporting, street wash inspection program	Illicit Discharge, Commercial/Industrial, Public Outreach, Target Pollutant
• Field Services	Maintenance of MS4 system including detention basins	Illicit Discharge, New Development, Construction, Target Pollutant
• Business Services	24-hour clearing house for spills and illegal dumping complaints	Illicit Discharge, Construction, Municipal Operations
Convention, Culture and Leisure	Incorporate public outreach messages into facility displays and events. This includes the zoo, Fairy Tale Town, Old Sacramento, Convention Center, marinas, museums, etc.	Public Outreach
Local Agencies		
Business Environmental Resource Center (BERC)	Outreach to and regulatory consultation for private industry	Construction, Illicit Discharge, Commercial/Industrial, Municipal Operations, New Development, Public Outreach, Target Pollutant
District Attorney	Enforcement of pollution prevention laws, Environmental Task Force meetings	Illicit Discharge, Commercial/Industrial, Target Pollutant
Sacramento Public Library Authority	Exhibit displays and points of distribution for volunteer storm drain stenciling program brochures	Illicit Discharge, Public Outreach

City Departments / Other Local Agencies	Summary of Activities	Major Related Stormwater Management Program Elements
Sacramento County Environmental Management Division	Food service and industrial facility inspection program, illegal discharge referrals	Illicit Discharge, Commercial/Industrial
Sacramento Regional County Sanitation District	Industrial facility inspection, coordination of post construction controls, general permit outreach	Illicit Discharge, Commercial/Industrial, New Development, Public Outreach
State and Federal Agencies/Organizations		
State Department of Fish and Game	Spill response, and enforcement and investigation	Illicit Discharge, Commercial/Industrial, Public Outreach, Watershed Stewardship
UC Extension IPM Program	Water Wise Pest Control Program	Public Outreach , Target Pollutant
UC Extension Master Gardeners	Water Wise Pest Control Program	Public Outreach, Target Pollutant
Bay Area Stormwater Management Agencies Association	Implement outreach such as Our Water Our World outreach in local hardware stores and the EcoWise IPM certification program for professional pest control applicators.	Public Outreach, Target Pollutant
Sacramento-Yolo Mosquito and Vector Control District	Conduct public outreach regarding pest control activities.	Public Outreach, Target Pollutant
County Agricultural Commission	Compiles pesticide use information for the Partnership area.	Target Pollutant
Department of Pesticide Regulations	Implement pesticide use regulations	Target Pollutant
Delta Tributary Mercury Council	Coordinates regional mercury control strategies and public outreach activities.	Target Pollutant
Mercury TMDL Stakeholder group	Coordinates development of regional mercury control strategies.	Target Pollutant
CALFED Bay Delta Program	This federal and state interagency organization is dedicated to restring the ecological health of the Bay-Delta system. Sacrament urban runoff is one of many pollutant sources to the Bay-Delta and CALFED has significant grant opportunities for activities that would result in Bay-Delta improvements.	Program Management

City Departments / Other Local Agencies	Summary of Activities	Major Related Stormwater Management Program Elements
Central Valley Drinking Water Policy Work Group	Coordinates development of Regional Water Board policies for drinking water constituent of concern. Urban runoff is one of many pollutant sources affected by the policy.	Program Management
California Stormwater Quality Association	The association is a non-profit corporation that includes California stormwater program, state, and federal regulatory agencies, and environmental groups. CASQA discusses and shapes stormwater policy.	Program Management

Collaboration on activities across Sacramento City Stormwater Program Elements ensures consistency in program task implementation. This collaboration also ensures that compliance is achieved in a cost effective manner. Therefore, most Sacramento City Stormwater Program Elements interrelate with each other. Additionally, Partnership activities, such as the Monitoring Program (Section 2.4), Target Pollutant Program (Section 2.5), Regional Public Outreach Program (Section 2.6), and Regional Commercial/Industrial Program (Section 2.7) also coordinate with Sacramento City Stormwater Program Elements to ensure reduction of pollutants discharged into the waterways.

Sacramento City's relationships with the other Permittees are described in Chapter 1 and 2. A discussion of the various agencies and groups that the Partnership and Sacramento City coordinate with is also included in Chapter 1 and Table 4.2-1.

Participation in Regional, Statewide and National Activities

Since 1990, Sacramento City has taken a leadership role in stormwater management programs by closely tracking national activities, developing regulations and forming stormwater management programs. Sacramento City continues to be involved in state and regional stormwater management activities, as demonstrated by its involvement in the California Stormwater Quality Association (CASQA), a statewide nonprofit corporation comprised of stormwater NPDES permit holders and other interested stakeholders. Sacramento City was also instrumental in founding the Urban Pesticide Committee (UPC) an open forum for exchange of information on water quality, toxicity impacts of pesticide use in urban areas, and discussions of potential control measures.

Sacramento City Stormwater Program staff continue to participate in several statewide and regional efforts to share information on topics related to stormwater quality issues, stormwater program implementation, and urban runoff within the context of the watershed as a whole, including UPC and CASQA activities; the Sacramento River Watershed Program (SRWP), which seeks to improve the health of the watershed by identifying problems and implementing solutions; refer to Table 4.2-1 for a listing of additional efforts.

4.2.8 Annual Planning and Reporting Activities

A list of annual planning and reporting activities can be found in Table 4.2-4, at the end of this section. Additionally, the Sacramento City annual work plan is implemented in the fiscal year (July 1 through June 30) following the May 1st submittal of the work plans to the Regional Water Board. The budget development for the work plans is initiated in the December prior to the May 1st submittals.

4.2.9 Budget/Staff Resources

As described above and Table 4.2-1, other Sacramento City departments provide significant resources and support services to the Sacramento City Stormwater Program. This includes resources for a full range of municipal activities that implement pollution prevention measures such as street sweeping, detention basin operation and maintenance, inlet cleaning, hazardous waste pick up, spill response, etc. Resources are also provided to implement pollution prevention measures such as at corporation yards or for chemical weed control activities. The costs for completing these Sacramento City Stormwater Program activities are included in the existing department budgets for these activities and are not quantified.

As described previously, the DOU Water Quality Section oversees the Sacramento City compliance effort for the Stormwater Permit. The Sacramento City Stormwater Program budget for activities conducted by DOU Water Quality Section is approximately $2.8 million, including staff salaries, implementation costs and monitoring activities costs. These costs are funded by an existing stormwater utility fee and by development fees.

The Sacramento City Stormwater Program staff resources include one Supervising Engineer, two Senior Engineers, an Associate Engineer, an Assistant Engineer, two Program Analysts, and one Stormwater Program Inspector. This staff complete work for the Stormwater Program and for other National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for Sacramento City and therefore are not fully allocated to the Stormwater Program. As of July 1, 2009, Sacramento City eliminated one of the two stormwater program inspection positions due to the decrease in development and construction activity and to budget reductions. The Sacramento City Stormwater Program also utilizes students on a part-time basis. Resources equal to approximately 7.3 full-time equivalent positions (FTEs) are committed to the Sacramento City Stormwater Program. Table 4.2-2 provides a breakdown of the estimated staffing currently used to accomplish all annual work plan goals and to ensure the Sacramento City Stormwater Program's continued progress.

Table 4.2-2
Staff Resource Allocations (2009)

Program Function/Element	Staff FTEs
Stormwater Program Management	0.8
Construction	2.1
Commercial/Industrial	0.5
Municipal Operations	0.8
Illicit Discharge	0.4
Public Outreach (including Watershed Stewardship)	0.8
New Development	1.0
Monitoring Program (including Special Studies)	0.5
Target Pollutant Program	0.4
TOTAL	7.3

4.2.10 City Employee Training

Sacramento City Stormwater Program staff implements training requirements for various Program Elements and provides outreach to other Sacramento City staff. Training and outreach includes topics such as current regulations; changes in regulations or procedures; program-specific requirements; and new practices and control measures. Outreach and training may take the form of training sessions during staff meetings, enrollment in classes offered through City University (a training curriculum unique to the City of Sacramento), fact sheets, workshops, tailgate meetings, and/or brochures.

Table 4.2-3 lists the sections and groups targeted for training, the Sacramento City Stormwater Program Elements addressed and the frequency of training sessions. Additional groups and training frequencies will be added to this table as new training sessions are developed. The Training Summary Table will be included in the annual reports and updated annually as new groups and messages are identified.

Table 4.2-3
City Employee Training

Department	Section/Group	Element/Program Addressed	Frequency
CONSTRUCTION ACTIVITIES			
Community Development	Environmental Review	Construction	Annual
Community Development	Building/Plan Review and Inspection	Construction	Twice a permit term
General Services	Facilities & Property Management/Design & Inspection	Construction, Municipal	Annual
Parks and Recreation	Park Planning, Design & Development Services/Project Managers & Inspection	Construction, Municipal	Annual
Transportation	Engineering Services/Project Managers	Construction, Municipal	Annual

Department	Section/Group	Element/Program Addressed	Frequency
Transportation	Engineering Services/Inspection	Construction, Municipal	Annual
Utilities	Engineering Services/CIP Project Managers	Construction, Municipal	Annual
Utilities	Engineering Services/CIP Inspection	Construction, Municipal	Annual
Utilities	Engineering Services/Development Review	Construction	Annual
DESIGN/NEW DEVELOPMENT ACTIVITIES			
Community Development	Planning including Environmental Review and Long-Range Planning	New Development	Annual
Community Development	Building/Plan Review and Inspection	New Development	Annual
General Services	Facilities & Property Management/Design & Inspection	Municipal, New Development	Annual
Parks and Recreation	Park Planning, Design & Development Services/Project Managers and Inspection	Municipal, New Development	Annual
Transportation	Engineering Services/Project Managers	Municipal, New Development	Annual
Transportation	Engineering Services/Inspection	Municipal, New Development	Twice a permit term
Utilities	Engineering Services/CIP Project Managers	Municipal, New Development	Twice a permit term
Utilities	Engineering Services/CIP Inspection	Municipal, New Development	Twice a permit term
Utilities	Engineering Services/Development Review	New Development	Annual
MUNICIPAL FACILITY ACTIVITIES			
General Services	Facilities and Property Management/Building Maintenance	Municipal, Target Pollutants, Illicit Discharge	Twice a permit term
General Services	Fleet Management/Operations	Municipal, Target Pollutants, Illicit Discharge	Twice a permit term
Convention, Culture & Leisure	Various Sections/Public Venues (Community Centers, Convention Center, Museums, Zoo, Old Sac., etc.)	Municipal, Target Pollutants, Illicit Discharge	Twice a permit term
Convention, Culture & Leisure	Capital City Golf/Golf Course Maintenance	Municipal, Illicit Discharge	Twice a permit term
Utilities	Plant Services/Wastewater and Drainage Plant Operations	Municipal, Illicit Discharge	Twice a permit term
Utilities	Plant Services/Water Production Operations	Municipal, Illicit Discharge	Twice a permit term
MAINTENANCE AND OPERATION ACTIVITIES			
Code Enforcement	Neighborhood Code Enforcement	Illicit Discharge	Twice a permit term
Code Enforcement	Housing & Dangerous Buildings	Illicit Discharge	Twice a permit term
Fire	Operations and Special Operations	Municipal, Illicit Discharge	Twice a permit term
General Services	311/City Operators	Illicit Discharge	Annual
Transportation	Street Maintenance Services/Pavement Maintenance	Municipal, Target Pollutants, Illicit Discharge	Annual
Transportation	Street Maintenance Services/In-Source Concrete	Municipal, Illicit Discharge	Annual

Department	Section/Group	Element/Program Addressed	Frequency
Transportation	Street Maintenance Services/Concrete	Municipal	Twice a permit term
Transportation	Street Maintenance Services/Streetscapes	Municipal, Target Pollutants, Illicit Discharge	Twice a permit term
Transportation	Street Maintenance Services/Signs and Markings	Municipal	Twice a permit term
Transportation	Street Maintenance Services/Signals and Lighting	Municipal	Twice a permit term
Transportation	Urban Forest/Operations (all field staff)	Municipal, Illicit Discharge	Twice a permit term
Transportation	Urban Forest/Pesticide Applicators	Target Pollutant	Annual
Utilities	Solid Waste/Control 4	Illicit Discharge	Twice a permit term
Utilities	Solid Waste/Solid Waste Collection and Operations	Municipal, Illicit Discharge	Twice a permit term
Utilities	Plant Services/Water, Wastewater and Drainage Maintenance	Municipal, Target Pollutant, Illicit Discharge	Annual
Utilities	Field Services/Drainage (all field staff)	Municipal, Illicit Discharge	Annual
Utilities	Field Services/Drainage (pesticide applicators)	Target Pollutant	Annual
Utilities	Field Services/First Responders	Illicit Discharge	Annual
Utilities	Field Services/Water Distribution	Municipal	Annual
Utilities	Field Services/Waste Water	Municipal, Illicit Discharge	Annual
Utilities	Engineering Services/Stormwater Inspectors	Illicit Discharge	Annual
Convention, Culture & Leisure	Capital City Golf/Golf Course Maintenance (Pesticide and fertilizer applicators)	Target Pollutant	Annual
Parks & Recreation	Park Operations Services/ Park Maintenance	Municipal, illicit Discharge	Twice a permit term
Parks & Recreation	Park Operations Services/Park Maintenance (Pesticide and Fertilizer Applicators)	Target Pollutant	Annual

Table 4.2-4

City of Sacramento Program Management Activities Work Plan (2008-2013)

Element Goal: The goal for the Program Management Element is to provide direction for Program activities and administration and to ensure that the City complies with the Sacramento Stormwater Permit.

Legend: ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	FY08/09	Schedule/Target Outcome Level FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Legal Authority												
Submit certified Legal Authority statement	D.6					♦						April 30, 2009 (6 months after Permit effective date)
Review and revise existing ordinances	D.5					N/A	⇔	⇔				1 year after SQIP approval
Regulatory Submittal												
Revise Sacramento City SQIP based on adopted Stormwater Permit	D.2					♦						April 30, 2009 (6 months after Permit effective date)
Finalize Sacramento City SQIP based on the Regional Water Board comments	D.3.c					N/A	♦					Sept. 22, 2009
Submit Sacramento City's Annual Work Plan	D.3.a					♦	♦	♦	♦	♦	♦	May 1st
Submit Sacramento City's Annual Report including fiscal analysis	D.3.b					♦	♦	♦	♦	♦	♦	October 1st
Assess effectiveness of Sacramento City SQIP and report in the Sacramento City Annual Report	D.3.b					⇔♦	⇔♦	⇔♦	⇔♦	⇔♦	⇔♦	October 1st

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4.3 CONSTRUCTION ELEMENT

4.3.1 Goal

The goal of the Construction Element is to reduce the discharge of stormwater pollutants to the maximum extent practicable (MEP) by requiring construction sites to reduce both sediment in site runoff and other pollutants such as litter and concrete wastes through good housekeeping procedures and proper waste management. Excessive discharge of sediment can cause erosion and harm creek habitat through both scour and smothering of spawning areas.

POLLUTANTS ADDRESSED BY THIS ELEMENT

- **Sediment***
- **Metals***
- Nutrients
- **Pesticides***
- Construction waste
- Other non-stormwater discharges

***Target pollutant for Sacramento area**

4.3.2 Evolution

During past permit terms, activities under the Construction Element were concentrated on developing ordinances and standards, incorporating these requirements into the development review process and project management procedures. Currently, the development review process successfully incorporates stormwater requirements for private development projects from the planning process to the completion of construction.

In the last permit term, the Sacramento City began to:

- Verify that the stormwater pollution prevention plans (SWPPPs) submitted to Sacramento City contained specific required State Construction General Permit components
- Prioritize construction sites as a high or moderate threat to water quality
- Inspect construction sites at minimum inspection frequencies
- Annually train Sacramento City employees who are engaged in construction related activities on stormwater runoff prevention procedures

A comprehensive list of accomplishments to date for the Construction Element is provided in Appendix 4A.

In this permit term, the Construction Element will concentrate on updating:

- Existing standards, procedures and specifications such as Sacramento City's Administrative and Technical Procedures Manual for Grading, Erosion and Sediment Control (Grading Manual)
- Control measures with current, innovative Erosion and Sediment Control (ESC) measures and housekeeping practices

City codes will be revised to be consistent with any new requirements in the upcoming reissued State Construction General Permit. Resources will also focus on providing annual training of Sacramento City staff on both local and state requirements.

A detailed list of tasks and schedules for implementation can be found in Table 4.3-1 – City of Sacramento Construction Element Activities Work Plan (2008-2013).

4.3.3 Strategy

The Construction Element strategy includes the following components:

- Ensure that plan review and approval procedures, standards and field requirements are clear and effective.
- Ensure that the development and construction community:
  - Comply with local grading, erosion and sediment control requirements
  - Properly implement the required BMPs associated with construction activities
  - Maintain good housekeeping practices associated with construction activities
  - Obtain coverage under the State Construction General Permit for projects that disturbed one or more acres of land.
- Ensure that City project managers:
  - Obtain coverage under the State Construction General Permit for all municipal improvement projects that disturbed one or more acres of land
  - Comply with local erosion and sediment control requirements.
- Provide plan review, inspections and enforcement.
- Evaluate and incorporate new technologies and alternative control measures.
- Provide training and technical support to Sacramento City staff on local and state stormwater quality requirements and procedures.
- Conduct outreach and provide guidance to the development and construction community on stormwater quality requirements related to construction activities.
- Conduct periodic meetings with Sacramento City Stormwater Program Inspectors to evaluate current and proposed ESC requirements and good housekeeping practices.

4.3.4 Activities

A list of tasks and their associated schedule is presented in Table 4.3-1 – City of Sacramento Construction Element Activities Work Plan (2008-2013), located at the end of this section.

Legal Authority

The City of Sacramento Grading, Erosion and Sediment Control Ordinance (Grading Ordinance) available in Appendix 4C will be evaluated and updated to be consistent with the new requirements from the State Construction General Permit.

Erosion, sediment and pollution control standards and specifications will also be evaluated and revised based on construction practices and on the latest technology. Alternative and innovative control measures may be identified and evaluated through networking with other programs, product research, literature reviews, and BMP performance studies. Water quality control requirements and standards drawings are included within with Sacramento City's Standard Specifications. See Appendix 4G for the City of Sacramento Standard Specifications (June 2007), Section 16 Water Quality Control.

After reissuance of the State Construction General Permit, components of the Construction Element will be re-evaluated to identify any standards and/or procedures that need to be revised to effectively reduce construction site-related pollution to the MEP.

Permitting, Inspection and Enforcement

Developers, contractors, and/or project managers are notified of Sacramento City erosion, sediment and pollution control and State Construction General Permit requirements during the entitlement and plan review process. Local and state requirements are incorporated into environmental documents such as Environmental Impact Reports (EIRs), Mitigation Monitoring Plans (MMPs), and standard conditions for entitlements such as tentative maps and special permits.

Development projects must adequately address city and state requirements through the entitlement and plan approval process as well as municipal procedures, by ensuring that each project includes an adequate ESC plan and obtains a State Construction General Permit when the disturbed area is one acre or more. Prior to issuing a grading or a building permit for projects requiring a State Construction General Permit, Sacramento City Department of Utilities Development Review staff will require the submittal of a completed SWPPP and the project's State-issued Waste Discharge Identification (WDID) number to verify that a State Permit was obtained.

SWPPPs submitted to the City must contain the following items at a minimum:

- Vicinity map
- Site map
- List of potential sources of stormwater pollution
- Type and location of ESC BMPs
- Name and number of the person(s) responsible for implementing the SWPPP
- Signed landowner certification

Municipal project managers must ensure that ESC plan(s) are prepared for municipal projects. They must also ensure that State General Construction Permit(s) are obtained and implemented for municipal projects where disturbed area is one acre or more. Municipal construction projects are also briefly discussed in Section 4.5, the Municipal Operations Element.

Construction projects are inspected to ensure that sites comply with City of Sacramento Grading Ordinance. Inspection staff ensures that control measures are implemented, properly installed and maintained throughout the entire construction phase of a project.

Minimum construction inspection frequencies will be established for construction projects disturbing one acre or more, by prioritizing sites as a high threat or moderate threat to water quality. Factors utilized to rate these construction projects inspection frequencies include:

- The project size, including all aspects of the construction phase (i.e., grading, improvements and structures), the activity level and the type of land use
- Whether the site is located in the area of a previous project with known erosive soils that was required to use mechanical and/or chemical filtration systems
- Whether the site borders and/or discharges directly to a water of the State and/or a 303(d)-listed water body that is sediment-impaired
- The number of previous violations of local stormwater ordinances, including recent State Construction General Permit violations obtained by the developer and/or the contractor(s) in Sacramento City's jurisdiction
- The quality of the site's BMP implementation and housekeeping practices

Projects designated as a high threat to water quality will be inspected a minimum of once every two weeks during the wet season (from October 1 to April 30) and once a month during the remainder of the year. Development sites designated as a moderate threat to water quality will be inspected a minimum of once a month throughout the entire year. These inspection frequency schedules are minimum standards and, when possible, Sacramento City Stormwater Program staff will meet the Construction Element goal of inspecting each private development project every two weeks.

Inspection and enforcement of private development projects is conducted by Sacramento City Stormwater Program Inspectors, and inspection and enforcement of municipal projects is conducted by Sacramento City Construction Inspectors from the responsible department (e.g., Departments of Parks and Recreation, General Services, Transportation, and Utilities). Municipal Construction Inspectors will enforce local stormwater requirements and document actions in their daily reports.

Sacramento City Stormwater Program inspectors will enforce the local stormwater requirements at private development projects. Enforcement actions include verbal warnings, notices to comply, stop work orders and administrative penalties. The Sacramento City Stormwater Program Inspector will also assist the Municipal Construction Inspectors with enforcement action upon request.

Sacramento City's enforcement authority is contained in the Grading Ordinance and the Stormwater Ordinance (Stormwater Ordinance is attached in Appendix 4B). In addition to these ordinances, Sacramento City Stormwater Program staff utilizes the Administrative Penalty Guidelines for Prohibited Non-Stormwater Discharges **(**attached in Appendix 4H) when issuing administrative penalties. Sacramento City Stormwater Program staff will formalize the Sacramento City progressive enforcement procedures used by the Sacramento City Stormwater Program.

If Sacramento City Stormwater Program staff cannot determine whether the developer/owner has submitted a Notice of Intent (NOI) or received a Waste Discharge Identification (WDID) number, Sacramento City Stormwater Program staff will notify the Central Valley Regional Water Quality Control Board (Regional Water Board) within 5 business days of discovery. Such non-filer referrals will include the project location, the developer, the estimated project size, and any records of communication between Sacramento City Stormwater Program staff and the developer regarding filing requirements.

The Sacramento City Stormwater Program utilizes a Microsoft Access database to track grading permits issued, WDID numbers, SWPPPs submitted, site prioritization, inspections conducted, and enforcement actions issued for private development projects.

Training and Outreach

Sacramento City Stormwater Program staff will educate and provide guidance to Sacramento City staff (engineers, CIP project managers, building and construction inspectors, etc.) and to the construction and development communities on local and state requirements and procedures, as well as new technologies and practices, to ensure effective implementation of stormwater quality construction standards for municipal and private development projects. Outreach will include topics such as current regulations; changes in regulations, procedures or requirements; and new practices and control measures. Outreach may take the form of fact-sheets on regulations, workshops, staff meetings, preconstruction meetings, boilerplate ESC plans, brochures for specific practices (e.g., landscaping), etc.

Sacramento City staff who are engaged in construction activities, including the Sacramento City Department of Utilities Development Review staff, project managers, and inspectors, will be trained annually. See Table 4.2-1 in Section 4.2 – Program Management for a summary table of the various Sacramento City departments identified for training and for their training frequency. Outreach to the construction and development community will also be conducted.

Sacramento City Stormwater Program staff will coordinate bi-weekly meetings with Sacramento City Stormwater Program Inspectors to resolve issues identified from inspections and ensure effective and consistent enforcement.

4.3.5 Effectiveness Assessment

The Permittees' general approach to assessing the effectiveness of its stormwater programs is described in Section 2.3, Program Effectiveness. This section specifically describes the assessment activities and associated methods for evaluating the effectiveness of the Construction Element.

Activities discussed above and listed in Table 4.3-1 will be documented and reported in the annual report(s). Activities have the outcome level of 1 – Documenting Activities unless otherwise specified in Table 4.3-1. Element key indicators, indicated by checkmarks in Table 4.3-1, have outcome levels of 2 through 3, and will be used to demonstrate progress towards meeting the element goal. The work plan table also shows the schedule for the effectiveness assessment and the progression of the outcome levels.

Any change to the planned activities will be documented in annual work plan(s) and reported in the annual report(s). Results of the effectiveness assessment will be used to focus and modify activities for maximum environmental benefit.

The Construction Element is currently implementing effectiveness assessments at outcome level 1 – Documenting Activities. Activities used in the past to assess the element's effectiveness included:

- A special study on the effectiveness of inlet protection
- Plan quality and field implementation assessments conducted by Stormwater Program staff
- An independent third party audit and observations and feedback on improvements in knowledge and field implementation

The focus during this permit term will be on assessing the effectiveness of plan review, field implementation and staff training. Selected ESC plans will be assessed to ensure the plans meet stormwater quality requirements, selected construction sites will be evaluated to ensure BMPs are implemented and properly maintained, and surveys will be developed to assess staff's understanding of training concepts.

Table 4.3-1

City of Sacramento Construction Element Activities Work Plan (2008-2013)

Element Goal: The goal of the Construction Element is to reduce the discharge of stormwater pollutants at construction sites to the maximum extent practicable (MEP) by requiring erosion, sediment and pollution controls .

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	FY08/09	Schedule/Target Outcome Level FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Legal Authority												
Review and revise ordinance, city codes and/or policies	D.8.a.i					N/A			⇔			After reissuance of State Permit
Review and revise city's grading, erosion and sediment control design standards and specification to be consistent with the recently adopted State Construction General Permit	D.8.a.ii					N/A		⇔	⇔			After reissuance of State Permit
Permitting, Inspection and Enforcement												
Participate in CEQA documents review and provide comments	D.8.a.i					⇔	⇔	⇔	⇔	⇔	⇔	
Review and condition private development projects through the entitlement process	D.8.a.i					⇔	⇔	⇔	⇔	⇔	⇔	
Ensure that development projects include Erosion and Sediment Control (ESC) plans per City code	D.8.c.v					⇔	⇔	⇔	⇔	⇔	⇔	
Monthly assess the quality of the ESC plans for 30% of permits issued for regulated private development projects	D.8.a.ii	✓	All regulated projects include adequate ESC plans	C, T	Percent of permits with ESC plans that meet stormwater quality requirements	N/A	⇔3	⇔3	⇔3	⇔3	⇔3	
Require development projects to submit the mandated SWPPP and WDID number for all projects that disturb one or more acres of land in accordance with the State Construction General Permit	D.8.c.v	✓	Prior to the issuance of a building or grading permit a SWPPP and WDID are provided for all projects that disturb one or more acres of land	C, T	Percent of permits with SWPPPs and approved WDID numbers	⇔	⇔3	⇔3	⇔3	⇔3	⇔3	
Ensure that all municipal construction projects that disturb one or more acres of land comply with the State Construction General Permit requirements and, for those projects disturbing less than one acre, at a minimum submit ESC plans	D.8.a.vi	✓	By the fifth year of the permit term, show that 100% of municipal construction projects disturbing greater than or equal to one acre file for a NOI	C, T	Previous term percentage	⇔1	⇔1	⇔1	⇔3	⇔3	⇔3	
Inspect private construction projects that disturb one or more acres of land to ensure the required BMPs are implemented and maintained	D.8.a.vi	✓	All regulated construction sites implement and maintain the required BMPs	C, T, I	Percent of audited projects correctly implementing and maintaining the required BMPs	⇔1	⇔1	⇔3	⇔1	⇔3	⇔1	
Inspect municipal construction projects to ensure the required BMPs are implemented and maintained	D.8.a.vi	✓	All regulated construction sites implement and maintain the required BMPs	C, T, I	Percent of audited projects correctly implementing and maintaining the required BMPs	⇔1	⇔1	⇔1	⇔3	⇔1	⇔3	
Issue enforcement actions	D.8.a.vi					⇔	⇔	⇔	⇔	⇔	⇔	
Continue maintaining priority inspection database for construction projects based on project type, size, construction schedule, and levels of impacts	D.8.a.v					⇔	⇔	⇔	⇔	⇔	⇔	
Refer State Construction General Permit non-filer projects to the Regional Board	D.8.c.v					⇔	⇔	⇔	⇔	⇔	⇔	
Review and revise progressive enforcement policy and procedures	D.8.a.v					N/A	⇔					

Table 4.3-1

City of Sacramento Construction Element Activities Work Plan (2008-2013)

Element Goal: The goal of the Construction Element is to reduce the discharge of stormwater pollutants at construction sites to the maximum extent practicable (MEP) by requiring erosion, sediment and pollution controls .

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	FY08/09	Schedule/Target Outcome Level FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Evaluate current Street Washing Certification program	D.8.a.ix					N/A	⇔					
Training and Outreach												
Continue to train annually development and environmental review staff on stormwater quality requirements for development projects	D.8.a. viii	✓	All trained staff understand stormwater quality requirements for development projects	C,T,S	Pre-training survey results	⇔1	⇔1	⇔2	⇔2	⇔2	⇔2	
Continue to train annually project managers from General Services, Transportation, Parks and Utilities departments on stormwater quality requirements for municipal projects	D.8.a. viii	✓	All trained staff understand stormwater quality requirements for all municipal projects	C,T,S	Pre-training survey results	⇔1	⇔1	⇔2	⇔2	⇔2	⇔2	
Continue to train annually City inspectors from Utilities, Transportation, Parks and General Services on NPDES program and proper implementation of BMPs on municipal projects	D.8.a. viii	✓	All trained inspectors understand the importance of the NPDES program and have knowledge of current BMPs and proper implementation	C,T,S	Pre-training survey results	⇔1	⇔1	⇔2	⇔2	⇔2	⇔2	
Train twice a permit term building plan checkers and building inspectors on stormwater quality requirements for development projects	D.8.a. viii							⇔			⇔	
Conduct outreach and provide guidance to the construction and development community on revised stormwater quality requirements	D.8.a. viii					N/A			⇔			
Conduct the pre-wet season forum and/or distribute rainy season reminder (winterization) letter in September or October	D.8.a. viii					⇔	⇔	⇔	⇔	⇔	⇔	
Coordinate bi-weekly meetings with City Stormwater Program inspectors regarding private construction site compliance	D.8.c					⇔	⇔	⇔	⇔	⇔	⇔	

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4.4 COMMERCIAL/INDUSTRIAL ELEMENT

4.4.1 Goal

The goal of the Commercial/Industrial Element is to reduce or eliminate the discharge of pollutants into the City of Sacramento (Sacramento City) storm drainage system that are produced from all types of business activities to the MEP.

POLLUTANTS ADDRESSED BY THIS ELEMENT

- **Sediment***
- Metals:
  - **Copper***
  - **Lead***
  - **Mercury***
  - Other Metals
- **Pesticides***
- Concrete
- Other non-stormwater discharges

***Target pollutant for Sacramento area**

4.4.2 Evolution

One of the first tasks of the Commercial/Industrial Element was to inform the industrial community about stormwater regulations and the State Industrial General Permit. Sacramento City staff conducted outreach, including a workshop in 1996, for industries that staff thought would need coverage under the Industrial General Permit; however, industry participation was low. In July 2004, the County of Sacramento Environmental Management Department (EMD) began conducting inspections under the Commercial and Industrial Stormwater Compliance Program (CISCP). Since 2004, the Commercial/Industrial Element has been more successful at identifying industries that need coverage under the State Industrial General Permit and reporting non-filers to the Regional Water Board.

In 1996, the Sacramento City Stormwater Program staff prioritized 40 common industrial and commercial business types based on their potential to impact water quality using five different descriptive categories. The 2004 Stormwater Permit required that the industry list be updated using additional criteria specified by the Regional Water Board. The following industries were chosen for inspection: auto repair shops and body shops; auto sales, lease and rental dealerships; gas stations; restaurants; nurseries; kennels; equipment rental businesses; and, facilities with coverage under the State Industrial General Permit.

In the spring of 2007, EMD updated the industrial category definitions in order to clarify which industries would be included in the CISCP. The industry list was also used to identify industries targeted for educational outreach. The Partnership conducted outreach twice during the last permit term for industries that ranked in the top 20 of the prioritization list. See Section 2.7 - Regional Commercial/Industrial Program for more information on the inspection program, industry outreach, and the CISCP.

In the last permit term, Sacramento City Program staff conducted investigations on industries that did not fall under the CISCP program; instead, they were covered under the Complaint-Based Stormwater Compliance Program (CBSCP). Complaints from the public or from other businesses, or referrals from EMD initiated these investigations. Program staff worked with industries to comply with the Stormwater Ordinance by implementing progressive enforcement actions, cost recovery assessments, and providing educational materials. Appendix 4A provides a comprehensive list of accomplishments for this Element.

In this permit term, the Permittees will continue implementing the CISCP discussed in Section 2.7 - Regional Commercial/Industrial Program and the CBSCP discussed in this section, and will implement outreach to targeted businesses that exceed the Regional Water Board Benchmarks discussed in Section 2.7.

A more specific list of tasks and schedules is presented in Table 4.4-1 – Commercial/Industrial Activities Work Plan (2008-2013).

4.4.3 Strategy

The Commercial/Industrial Element strategy includes the following components:

- Continue implementation of the CISCP.
- Continue implementation of Sacramento City's CBSCP.
- Continue efforts to identify and notify industries in the City that may need coverage under the State Industrial General Permit.
- Continue to encourage increased industry participation in the Clean Water Business Partner (CWBP) Program.
- Continue to encourage industries to use other industry assistance programs such as the Business Environmental Resource Center (BERC).
- Continue to conduct outreach to priority and targeted industries/businesses; particularly those that have a history of significant violations.

4.4.4 Activities

The Commercial/Industrial Element includes Regional Commercial/Industrial Program activities, described in Section 2.7 and Table 2.7-1, and Sacramento City activities, described below and in Table 4.4-1. The regional activities include:

- Priority industry and industrial pollutant identification
- The Commercial and Industrial Stormwater Compliance Program (CISCP)
- Permittee evaluations
- Outreach

A list of Sacramento City tasks and their associated schedules is presented in Table 4.4-1, Commercial/Industrial Activities Work Plan (2008-2013), at the end of this section.

Legal Authority

Sacramento City's Stormwater Ordinance attached in Appendix 4B provides legal authority for regulating pollutant discharges to the storm drain system. This Stormwater Ordinance will be reviewed and amended to ensure that pollutant sources from commercial businesses and industrial facilities are effectively addressed.

Complaint-Based Stormwater Compliance Program (CBSCP)

Sacramento City Program staff investigates complaints involving discharges of prohibited non-stormwater or other pollutants from industrial facilities within five days of the initial report; if the report involves a suspected hazardous substance, the investigation begins within one day of the initial report. CBSCP complaints involve industries not covered by the CISCP inspections. Any complaints received that fall under the CISCP are referred to EMD for investigation. Sacramento City first responder crews respond immediately to any complaint involving a non-stormwater discharge that may need immediate abatement and clean up.

Industrial investigations will verify that each facility and/or activity conducted is in compliance with the Sacramento City Stormwater Ordinance. Enforcement will be conducted using the progressive enforcement procedures which include verbal warnings, notices to comply, notices of violations, and/or administrative penalties. See Appendix 4H for a copy of the Sacramento City Administrative Penalty guidelines for Prohibited Non-Stormwater Discharges. Cost recovery will be used when the City has to clean up a non-stormwater discharge and the discharger is known. City staff will provide relevant educational material to industries during investigations.

Sacramento City Stormwater Program staff will formalize the Sacramento City progressive enforcement procedures used by the Sacramento City Stormwater Program to enforce requirements in the Construction, Illicit Discharge and Commercial/Industrial Elements.

In conjunction with the Illicit Discharge Element, a database will be used to track the investigations and enforcement actions associated with the complaints. The database will be used to determine trends in violations among industries, response time, repeat offenders, and industries requiring outreach.

Sacramento City Stormwater Program staff will continue to coordinate with the Regional Water Board related to non-compliant facilities and suspected State Industrial General Permit non-filers. The process used to report non-filers to the Regional Water Board is shown in Figure 4.4-1 on the next page. All referrals from the Regional Water Board will be investigated within three working days.

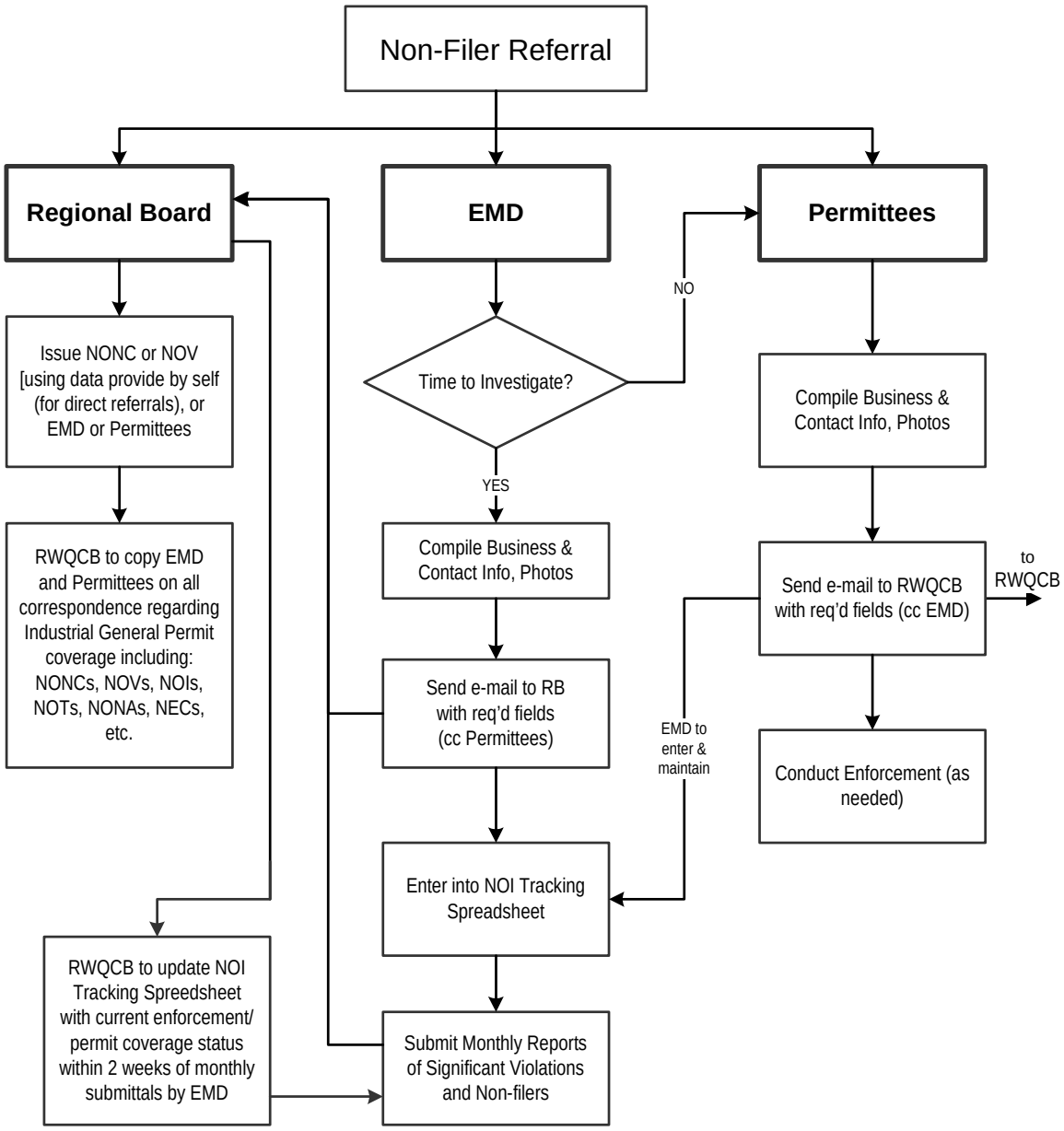
Outreach

Compliance assistance and information is made available through a variety of outlets and types of media. Brochures, flyers, fact sheets, workshops, site visits, television, and radio all contribute to inform the business community. Commercial/Industrial Element staff routinely work with Public Outreach Element staff and BERC to produce and distribute compliance information.

BERC provides confidential assistance for local industries seeking stormwater compliance information. Sacramento City staff coordinates with BERC to distribute stormwater pollution prevention information to local industries. Also, BERC conducts various stormwater compliance seminars every year targeting specific industries. Sacramento City contributes funds to BERC each year.

Along with the other Permittees, Sacramento City will continue to conduct outreach twice during the permit term to targeted industries known to potentially cause significant non-stormwater discharges. The goal of the outreach is to increase awareness of stormwater pollution and relevant regulations, educate industry owners and operators about BMPs for addressing pollution, and encourage environmental stewardship. See the Outreach activity under Section 2.7 – Regional Commercial/Industrial Program for more information on the targeted outreach.

Figure 4.4.1
Referral Process for Industrial General Permit Non-Filers



Effectiveness Assessment

The Permittees' general approach to assessing the effectiveness of its stormwater programs is described in Section 2.3, Program Effectiveness. This section specifically describes the assessment activities and associated methods for evaluating the effectiveness of the Commercial/Industrial Element. Additional activities and effectiveness assessments are included in Section 2.7, Regional Commercial/Industrial Program and Table 2.7-1.

Activities discussed above and listed in Table 4.4-1 will be documented and reported in the annual report(s). Activities have the outcome level of 1 – Documenting Activities unless otherwise specified in Table 4.4-1. Element key indicators, indicated by checkmarks in Table 4.4-1, have an outcome level of 3, and will be used to demonstrate progress towards meeting the element goal. The work plan table also shows the schedule for the effectiveness assessment and the progression of the outcome levels.

Any change to the planned activities will be documented in annual work plan(s) and reported in the annual report(s). Results of the effectiveness assessment will be used to focus and modify activities for maximum environmental benefit.

Sacramento City Commercial/Industrial Element is currently implementing effectiveness assessments at outcome level 1 – Documenting Activities. The key indicator will measure the reduction in the number of repeat violations in the CBSCP within a two year period.

Table 4.4-1

City of Sacramento Commercial/Industrial Element Activities Work Plan (2008-2013)

Element Goal: The goal of the Commercial/Industrial Element is to reduce or eliminate the discharge of pollutants into the storm drainage system that are produced from all types of business activities to the MEP .

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	Schedule/Target Outcome Level						Due Date/ Status/Other Notes
						FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	
Legal Authority												
Review and revise Stormwater Ordinance and/or policies	D.9.a.i					N/A		⇔				
Complaint-based Storm Water Compliance Program (CBSCP)												
Investigate business-related complaints	D.9.a.iii-viii					⇔	⇔	⇔	⇔	⇔	⇔	
Continue to conduct enforcement	D.9.a.iii-viii	✓	Reduction in the number of repeat violations/offenders within a two year period	C, T, I	2008/09 violations/offenders	⇔1	⇔1	⇔3	⇔3	⇔3	⇔3	
Review and revise progressive enforcement policy and procedures	D.9.a.i					N/A	⇔					
Maintain and update database with inspection, enforcement and outreach data	D.9.a.i					⇔	⇔	⇔	⇔	⇔	⇔	
Refer potential State Industrial General Permit non-filers to the Regional Water Board	D.9.a.iii-viii					⇔	⇔	⇔	⇔	⇔	⇔	
Investigate Regional Water Board referrals within 3 working days of receipt of referral	D.9.a.iii-viii					⇔	⇔	⇔	⇔	⇔	⇔	
Training and Outreach												
Provide guidance and educational materials to targeted industries/businesses that have committed violations	D.9.b.iii					⇔	⇔	⇔	⇔	⇔	⇔	

4.5 MUNICIPAL OPERATIONS ELEMENT

4.5.1 Goal

The goal of the Municipal Operations Element is to mitigate potential pollutants generated by municipal facilities and activities to the maximum extent practicable (MEP), to continue pollutant reduction efforts performed by Sacramento City Department of Utilities (DOU) staff, and to set an example of model pollution prevention for the public.

POLLUTANTS ADDRESSED BY THIS ELEMENT

- **Sediment***
- Vegetation waste clippings
- **Metals***
- Nutrients
- **Pesticides***
- Organic Carbon
- Bacteria/Pathogens
- Construction waste
- Maintenance waste
- **Hydrocarbon Products***
- Other non-stormwater discharges

***Target pollutant for Sacramento area**

4.5.2 Evolution

During past permit terms, the Municipal Operations Element has:

- Implemented a spill response program
- Complied with the State Construction General Permit for municipal construction projects
- Begun auditing existing municipal facilities having the potential to discharge pollutants into urban runoff, and identified targeted facilities for written pollution prevention plans
- Conducted prioritized storm drain system maintenance activities based upon accumulation of debris, customer complaints, and seasonal concerns
- Performed street sweeping for all curbed streets at least once per month
- Marked Sacramento City storm drain inlets with either long-term markers, stenciling, or permanent concrete stamps
- Trained Sacramento City staff on the impacts of stormwater pollution and associated prevention activities.

A comprehensive list of accomplishments for this Element is provided in Appendix 4A.

During the upcoming permit term, the Municipal Operations Element will continue implementing these activities, but staff will also develop and implement other activities, including:

- Facility Pollution Prevention Plans (FPPPs) including tracking of BMP implementation for facilities and corporation yards involved with vehicle/equipment maintenance and material storage
- Integrated Pest Management strategies for all Sacramento City departments involved with pesticide applications
- Inspection frequencies and maintenance procedures for Sacramento City-owned parking lots exposed to rainfall
- Adaptive Management Plans (AMPs) or Lake Management Plans (LMPs) for water quality detention basins
- Response plan for emergency and non-emergency fire-flow discharges

A more specific list of tasks and schedules is presented in Table 4.5-1, Municipal Operations Element Activities Work Plan (2008-2013).

4.5.3 Strategy

Existing Sacramento City inspections and cleanings of the drainage collection system and sweeping of curbed streets provides for a substantial reduction in stormwater pollutant discharges into receiving waters. Additionally, the Municipal Operations Element will implement new or continue to enhance existing municipal services and mitigate potential pollutant generating activities in order to meet its goal. The strategy will include activities in the following categories:

- Spill response
- New Development and Construction Requirements for Municipal Capital Improvement Projects
- Pollution Prevention at City Facilities
- Landscape and Pest Management
- Storm Drain System Maintenance
- Street Cleaning and Maintenance
- Curbside Green Waste Collection
- Parking Facilities Maintenance
- Detention Basin Maintenance
- Emergency Procedures
- Non-Emergency Fire Fighting Flows
- Training

4.5.4 Activities

A list of tasks and their associated schedule is presented in Table 4.5-1, Municipal Operations Element Activities Work Plan (2008-2013), located at the end of this section.

Spill Response

Sacramento City implements an extensive Supervisory Control And Data Acquisition system (SCADA) that is used to remotely monitor and manage flows of the drainage and sanitary sewer pumping stations (Sumps). The SCADA system provides real-time information regarding Sump volumes and associated pumping activities, and its remote monitoring of Sumps is conducted at all times without interruption. The SCADA system monitoring of the sanitary-sewer Sumps provides for effective prevention, identification and correction of sanitary sewer overflows (SSOs) to the drainage system, and is also utilized in the mitigation of reported illicit discharges into the drainage system. In the event of a SSO or of an illicit discharge entering the drainage system, the pumps at the associated drainage Sump are shut off until proper clean-up procedures have been implemented. The SCADA system and the associated spill response procedures routinely prevent non-stormwater discharges and sewage from reaching receiving waters. See Appendix 4I for the Wastewater Collection Standard Operating Procedure (SOP). This SOP outlines procedures pertaining to the sanitary sewer system, combined sewer system and weather related events.

Sacramento City's DOU Field Services Division's Drainage Section (Drainage Section) first responders will continue responding to reported illicit discharges and spills entering, or threatening to enter, the drainage collection system. The first responders will abate the hazard, clean the impacted drainage lines and associated appurtenances, and arrange for proper disposal of the discharged substance. Sacramento City's drainage first responders coordinate with Sacramento City Stormwater Program staff, Sacramento County and Sacramento City HAZMAT crews, outside contractors and other regulatory agencies on a case-by-case basis. See Section 4.6, Illicit Discharge Element, for further details.

Sacramento City also has coverage under the recently adopted Statewide General Waste Discharge Requirements (WDR), Order No. 2006-0003, for all publicly owned sanitary sewer collection systems. The purpose of the WDR is to prevent SSOs and requires Sacramento City to develop and implement a Sewer System Management Plan (SSMP) to eliminate SSOs. The Sacramento City Council certified the City's SSMP on April 21, 2009.

New Development and Construction Requirements for Municipal Capital Improvement Projects

Sacramento City Stormwater Program staff will evaluate design practices of regulated capital improvement projects (CIPs) to ensure adequate implementation of post-construction stormwater quality requirements including source control, runoff reduction and/or treatment control measures. Sacramento City staff will also continue to obtain coverage under the State Construction General Permit for Sacramento City CIPs that disturbed one or more acres of land, and ensure adequate erosion and sediment control for CIPs disturbing less than one acre. See Section 4.3, Construction Element and Section 4.8, New Development Element for further details.

Pollution Prevention at City Facilities

The Sacramento City Stormwater Program staff have audited existing facilities that have the potential for discharging pollutants to Sacramento City's drainage system and/or receiving waters. These audits identified potential pollutant discharges resulting from the activities conducted at these sites and the existing BMPs implemented to reduce the potential discharges. Plumbing of wash areas were investigated (except for fire stations) to ensure that all connections were either self-contained, equipped with a clarifier, equipped with an alternative pre-treatment device, or plumbed to the sanitary sewer system. During these audits, additional BMPs, guidance materials and training required to further reduce potential pollutant discharges from Sacramento City facilities were identified and will be addressed in facility-specific pollution prevention plans. See Appendix 4J for the initial facility audit report.

Sacramento City Stormwater Program staff will review and update existing Storm Water Pollution Prevention Plans (SWPPPs) for General Industrial permitted facilities, and develop similar Facility Pollution Prevention Plans (FPPPs) for targeted, non-permitted facilities with the potential of discharging pollutants into the drainage system. These pollution prevention plans will include good housekeeping practices, material storage control and leak and/or spill control. Recent budget constraints, however, have a direct impact on some BMP implementation practices. For example, Sacramento City staff and equipment formerly used to sweep targeted facilities will no longer be available for that task. Any reduction in BMP implementation practices as a result of budget constraints will be assessed and alternative BMPs will be evaluated. SWPPPs and FPPPs will be reviewed and revised every year for the first three years after implementation, and subsequent reviews will be conducted at least once per permit term. See Appendix 4K for an example of an existing SWPPP and Appendix 4L for an example of a newly developed FPPP. Additionally, inspection frequencies will be established to ensure adequate BMP implementation and maintenance. A database will be developed to track site-specific BMP selection, inspections and effectiveness rankings.

Maintenance of Sacramento City-maintained ornamental ponds and ponds at City-maintained golf courses will be further evaluated during FPPP inspections to ensure that no discharge of contaminated pond water enters the storm drainage system. As FPPPs for Golf Courses are being updated, documentation of pond maintenance will be included in the updated FPPPs and in the associated database. Currently, none of the ponds associated with Sacramento City-maintained golf courses are ever routinely drained.

Landscape and Pest Management

Sacramento City Stormwater Program staff will continue developing and implementing Integrative Pest Management (IPM) policies and procedures that apply to all of Sacramento City's pest management activities (see Appendix 4M for Sacramento City's current IPM Policy). IPM, which focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation and modification of cultural practices, ensures that:

- Pesticides are used only after monitoring indicates chemical controls are recommended to adequately manage the pest population, and chemical controls are applied according to established guidelines
- Treatments are made with the goal of removing only the target organism
- Pest control materials are selected and applied in a manner that minimizes risks to human health, to beneficial and non-target organisms, to water quality, and to the environment

In addition to adopting IPM management strategies, Sacramento City staff will continue implementing standardized protocols for chemical applications of pesticides (including pre-emergents) and fertilizers that:

- Prohibit application or storage of banned or unregistered pesticides
- Require staff applying pesticides to be certified by the California Department of Pesticide Regulation, or under the direct supervision of a certified pesticide applicator
- Require the storage of fertilizers and pesticides indoors or under cover on paved surfaces, or the use of secondary containment
- Minimize the use, the storage and the handling of pesticides to reduce the potential for spills
- Require the regular inspection of storage areas

Pest management decisions for each specific Sacramento City owned and/or operated facilities will follow an IPM Implementation Plan, and include contract provisions for Pest Control Operators requiring IPM services. In addition, training and guidance materials will be developed to support the effective implementation of IPM strategies at selected facilities. See Appendix 4N for a sample of the current contract language associated with structural pest control.

Storm Drain System Maintenance

Sacramento City staff will continue to remove accumulated debris and sediment from the storm drainage system (i.e., pumping stations, underground drainage lines, drainage inlets, manholes, and drainage channels). By following prescribed maintenance procedures, Sacramento City staff ensures removal of pollutants to the MEP and protection of the habitat within the improved and/or natural drainage facility. Sacramento City staff will also continue to implement existing storm drain maintenance procedures that minimize the discharge of pollutants during maintenance of the drainage channels, ditches and creeks. Sacramento City staff will also continue to measure the quantity of waste removed, to properly dispose of material removed, and to keep accurate records of maintenance operations. Sacramento City's drainage Sumps are maintained by the DOU Plant Services Division, and the remaining drainage infrastructure is maintained by the Drainage Section field crews.

The drainage system for Sacramento City is broken up into several drainage sheds, and drainage from the majority of these sheds is collected at Sumps. Sump designs incorporate flood control features as well as sedimentation features within their wet wells. Furthermore, drainage Sumps are considered "downstream BMPs" because of the ability to trap litter and sediment. Large screens will contain litter and prevent it from entering the pump intake location, helping to minimize damage to pumping mechanisms. Litter is removed from screens during normal cleaning operations and disposed of properly.

All drainage Sumps are visually inspected on a weekly basis for evidence of contamination and preventative maintenance needs. Key factors for cleaning frequencies of Sumps include the amount of rainfall, the accumulation of debris, and the land use within the drainage shed. Of the 104 drainage Sumps within Sacramento City, approximately 75 are scheduled to be cleaned each year. If it is determined that there is an unusually high level of sediment and debris, then the Sump is placed on an accelerated cleaning cycle.

Sacramento City staff will continue implementing maintenance procedures for drainage channels, ditches and creeks as specified in the existing maintenance agreements with the California Department of Fish and Game. These agreements identify the environmental character of each drainage facility and maintenance activities and schedules to adequately address flood control needs within that facility.

Chemicals are sometimes used for weed control during channel maintenance. This type of chemical application adheres to strict oversight and guidelines as required by federal, state, and local regulations. All chemical applications are overseen by certified staff, and further guidance and oversight is performed by a contracted Pest Control Advisor (PCA). The DOU Field Services' contracted PCA provides regular training and recommendations for weed control; demonstrates knowledge of Integrated Pest Management (IPM) principles; provides guidance to all staff involved with chemical applications on the recommended use, the recommended application techniques, required safety practices, and on required disposal guidelines associated with the weed control chemicals. According to California State law, all PCAs require licensing by the California Department of Pesticide Regulation. In order to obtain such licensing, the PCA must show expertise in identifying and adequately managing pests within a specific pest category, and the PCA can only make recommendations for that category.

Drainage Section field crews have been implementing a comprehensive maintenance and inspection program for the underground collection system for several decades which has met the Stormwater Permit requirements. Routine maintenance includes the inspection of mains, manholes, and drain inlets. Crews are typically inspecting for structural integrity, for flood related issues (which includes accumulation of debris), and for signs of illicit discharges and/or connections. All storm lines, drain-inlet leads and manholes are on a 3, 6, 12, 24, or 36-month cleaning schedule depending on the priority of the drainage facility. Priority is based on accumulation of waste, customer complaints, and flood control issues.

Another component of the storm drain system maintenance includes marking of the drain inlets with the "No Dumping" message to discourage illicit discharges. During the first two permit terms, Sacramento City used volunteers to mark drain inlets with the spray painted message, "No Dumping Drains to River." In the third permit term, Sacramento City Stormwater Program staff oversaw completion of a project to attach a more permanent curb marker conveying more information than the prior spray-painted message. The new markers include the river or creek name, the regional 916-808-4H20 public hotline number to report suspected spills and illegal dumping activities, and the Sacramento City Stormwater Program website internet address; thus establishing a stewardship between Sacramento City and its community to protect water quality. Initially, listing the river or creek name on the marker will educate the public about the specific receiving water being impacted by discharges in the specific inlets. These curb markers also match signs placed at creek crossings to discourage illegal dumping along creeks. When a marker needs to be replaced, a more general marker that does not designate a specific water body will be placed in order to simplify tracking and maintenance. At least 95 percent of the City's MS4 drain inlets associated with curb and gutter now have a no dumping message with either a concrete stamp or a curb marker; consequently, the volunteer stenciling program is no longer suitable and will be discontinued. Sacramento City Stormwater Program staff will oversee maintenance and replacement of the curb markers which will be conducted by field staff, volunteers or consultant services.

Pollutant discharges into Sacramento City drainage facilities or into receiving waters will also be minimized by continuing to implement existing procedures for special events which requires special-use permits that require proper management of trash and litter.

Street Cleaning and Maintenance

Fine particles and pollutants naturally tend to accumulate along the curbs of roads in between rainfall events. Street sweeping is a source-control BMP employed by Sacramento City. Each year, Sacramento City street sweepers collect and dispose of sediment and debris that would otherwise be transported into the drainage collection system. The presence of downstream BMPs (i.e., drainage Sumps and their associated cleaning schedule) provide further defense against potential roadway-pollutants entering local receiving waters. Additionally, potential roadway-pollutants that have entered the drainage collection system may also be removed during cleaning of the underground pipes and appurtenances provided by Drainage Section field crews.

Sacramento City had previously implemented a street sweeping program that included a monthly sweeping frequency for all streets with a curb and gutter, and a weekly sweeping frequency for the Sacramento City downtown area. Recent economic impacts to the Sacramento City budget have led the City Council to approve a reduction in street sweeping services. As a result, a new sweeping frequency for all streets with a curb and gutter is now being implemented. In conjunction with this reduction in the street sweeping program, the City Council also approved an acceleration of the voluntary containerization of green waste program. Previously, all Sacramento City customers would have had the option to receive a green-waste container by the end of 2014; now all customers will have this option by the end of 2010. Containerization of green waste will help compensate for some of the loss of frequency in the street sweeping program. Wash water and solid waste collected as part of the street sweeping activities will continue to be disposed of properly, following relevant solid waste disposal requirements.

During this permit term, Sacramento City Stormwater Program staff will work with the DOU Solid Waste Division to evaluate Sacramento City's street sweeping program to determine if practices could be adjusted to capture additional amounts of accumulated sediments. The evaluation process will consider economic feasibility in order to justify any changes that may impact utility rates.

Sacramento City Stormwater Program staff has coordinated with the Street Maintenance Section of the Sacramento City Department of Transportation (DOT) to evaluate routine maintenance practices. Standardized BMP implementation practices specific to that section's activities were identified, and associated supervisors for that section assisted in the development of written standard procedures (see Appendix 4O for the Street Maintenance BMP Standard Operating Procedures). Established BMP practices are implemented on all routine paving and concrete maintenance projects, and training specific to these routine activities is conducted annually. Any complaints received pertaining to street maintenance activities are addressed. The maintenance supervisors are very responsive to implementing corrective measures.

Various street-maintenance activities require sawcutting in the streets or in the right-of-way. Sawcut slurry is recovered with an on-site vacuum system and is disposed of properly. There are five Sacramento City Construction Inspectors dedicated to inspection of concrete activities that ensure proper BMP implementation of contracted sawcutting and concrete work. Also, all concrete wash water from Sacramento City's DOT In-Source Concrete crews is handled and disposed of properly; and any complaints received regarding improper disposal of concrete wash water is directed to the Concrete Supervisor who is responsive to implementing corrective measures.

Sacramento City Stormwater Program staff will evaluate street maintenance practices at least once per permit term to ensure proper management of materials and waste from alley maintenance, ditch maintenance, pavement marking, concrete installation and repair, saw cutting, patching, resurfacing and surface sealing.

Curbside Green Waste Collection

On September 27, 1977, city voters approved Measure A, which adopted an ordinance to prohibit Sacramento City from requiring the mandatory containerization of yard and garden refuse within Sacramento City limits, unless this prohibition is repealed or amended by a vote of the majority of the electors of Sacramento City at any municipal election. The deposit and collection of garden refuse in the city streets results in various impacts that have resulted in numerous Sacramento City residents requesting that Sacramento City provide an option to subscribe to a containerized collection service as an alternative. Measure A prohibits mandatory containerization, but does not prohibit Sacramento City from providing an optional containerization collection service. Since the property owner's decision to participate in the program would be voluntary, Sacramento City would not be mandating or requiring containerization.

In 2004, Sacramento City's City Council approved an ordinance and associated resolutions amending Sacramento City's City Code to allow a voluntary containerization component to the lawn and garden collection services (see Appendix 4P for those resolutions and ordinance). Lawn and Garden Services include the collection of garden refuse from city streets, the disposal of garden refuse, and the periodic sweeping of those streets. The voluntary containerized collection service also provides collection and disposal of refuse placed in containers on Sacramento City streets and periodic street sweeping of those streets.

The voluntary containerized collection schedule includes weekly collection of containerized yard waste, and bi-weekly collection of loose material during the following seasons: Leaf Season (months of November and December), Pruning Season (end of February thru March), and Growth Season (end of April thru August). Sacramento City residents can learn more about the program and submit a request for participation through the DOU public website at the following internet address: www.cityofsacramento.org/utilities/solid-waste-recycling/residential/residential_voluntary_containerization.cfm. When enough residents from a particular neighborhood show interest in participating, the entire neighborhood will be offered the program. When a neighborhood has been targeted for green waste cans, Sacramento City staff send out a letter prior to container delivery and conducts a community meeting ten days before collection begins. This letter and accompanying community meeting provide information pertaining to the details of the program. Upon delivery of the container, additional outreach material is provided. See Appendix 4Q for examples of the letter mailed and of the outreach material distributed.

At the end of the third permit term, approximately 50,000 Solid Waste Division customers were participating in the voluntary containerization program. The Sacramento City Council recently approved a proposal to offer the remaining 60,000 green-waste cans by the end of 2010. It is expected that all Sacramento City DOU Solid Waste Division customers (approximately 113,000) will have the option to participate in the voluntary containerization program by the end of 2010.

Parking Facilities Maintenance

Most Sacramento City facilities are properly maintained with scheduled maintenance. Typical maintenance activities include sweeping, trash pickup, and leaf blowing. This maintenance is primarily done by Sacramento City staff though some is contracted out. Downtown parking garages, which are all located within Sacramento City's combined drainage and sewer system, are maintained at the highest level adding power scrubbing to scheduled maintenance.

During this permit term, Sacramento City Stormwater Program staff will evaluate and document inspection and maintenance practices for Sacramento City-owned and maintained parking lots exposed to rainfall. The evaluation will identify prioritized categories of parking facilities and corresponding inspection and maintenance frequencies to prevent build-up of debris and excessive oil to the MEP. Only parking facilities discharging into the drainage collection system will be evaluated.

Detention Basin Maintenance

Adaptive Management Plans (AMPs) provide guidance for the long-term maintenance and operations for water-quality detention basins, with unique features for each detention basin. Key maintenance issues include, but are not limited to:

- Algae control
- Vegetation management
- Fuel load management and fire control
- Pond sediment removal,

- Irrigation system operation
- Inlet maintenance
- Water quality control
- Mosquito control

Each basin is divided into separate maintenance zones based on a variety of factors, including slope, topography, hydrology, and anticipated use. Maintenance activities prescribed for each of these zones address the target condition of the area, the types of management activities required to maintain the target condition, and the frequency of these management activities. Recommended visual-monitoring activities are included as a type of maintenance activity to support the adaptive approach to basin management. See Appendix 4R for an example of an AMP.

During this permit term, Sacramento City Stormwater Program staff will review and revise existing AMPs to address current regulatory standards. Chemical and fertilizer activities will be evaluated and adjusted to ensure permit compliance. Revised AMPs will serve as a developmental model for additional plans to be developed and implemented for targeted and newly constructed water-quality detention basins.

Additional water-quality basins within the North Natomas community of Sacramento City that are maintained by Home Owner Associations (HOAs) have Lake Management Plans (LMPs) similar to the AMPs. Drainage agreements between the HOAs and Sacramento City include language requiring these LMPs to address water quality concerns, and specify responsibilities and obligations relative to the maintenance of the detention basin and all of its related facilities. As part of the LMPs, the HOAs collect water quality data on a quarterly basis, implement BMPs, and maintain the aesthetics (i.e., algae, trash, invasive plants) of the lakes. Water quality monitoring reports are submitted to Sacramento City Stormwater Program staff for review. Sacramento City Stormwater Program staff will coordinate with HOA managers to revise LMPs to address identified inadequacies, if any, discovered in the submitted monitoring reports. See Appendix 4S & 4T for examples of a drainage agreement, an LMP and a HOA-submitted monitoring report.

Emergency Procedures

Sacramento City staff has identified principal hazards that are potentially threatening to its infrastructure, and has developed a City of Sacramento Emergency Operations Plan in April 2005. Hazards identified in this plan include floods, dam failures, earthquakes, hazardous materials incidents, major transportation accidents, multi-casualty incidents, urban-wildland interface fires, power outages, weather-related hazards, and homeland security hazards. Initial emergency response in this plan focuses on the preservation of life and property. Environmental protection is implemented once life and property issues have been addressed.

The Sacramento Regional Fire/EMS Communications Center dispatches personnel and equipment during emergency situations. Dispatch for fire-related calls includes notification of the DOU's Plant Services Division staff if there is a potential threat to the intake structures of the water treatment plants (which usually only occurs on a 3rd alarm fire or greater), or if there is a need for an increase of pressure to the water distribution system for the fire suppression activities. A call to this division alerts them to the location of the fire so that pumps at Sump stations in that area can be shut down. Experienced fire captains directly notify DOU's Field Services Division Drainage crews of fire runoff impacting the drainage collection system regardless of the level of alarm, and DOU's Plant Services and Field Services Drainage crews coordinate with each other. If hazardous materials are suspected to be involved within a fire, then such fire-debris are handled the same way as waste is handled during a hazardous material response. The cost for capture and disposal of all fire-suppression-waste water may be cost prohibitive; however, floatables can be affordably cleaned out of Sumps. Sacramento City Stormwater Program staff will coordinate with relevant agencies to evaluate existing BMP implementation practices and develop written procedures.

Non-emergency Fire Fighting Flows

Sacramento City fire crews typically utilize porous, open areas for fire hose manipulation training. Additionally, these crews do much of their training with other fire agencies at the McClellan facility which has incorporated water quality BMPs. Non-emergency fire activities will be evaluated and written BMP implementation practices will be developed.

Training

Training of Sacramento City staff and contracted employees is an integral part of the Municipal Operations Element strategy. Various groups are targeted to address Stormwater Permit requirements, to promote a clear understanding of the potential for municipal activities to pollute stormwater, and to identify and select suitable BMPs. Training may include information and requirements for other Elements as well. See Table 4.2-3 in Section 4.2, Program Management for a summary table of the various City departments identified for training and for the frequency of the training provided.

4.5.5 Effectiveness Assessment

The Permittees' general approach to assessing the effectiveness of its stormwater programs is described in Section 2.3, Program Effectiveness. This section specifically describes the assessment activities and associated methods for evaluating the effectiveness of the Municipal Operations Element.

Activities discussed above and listed in Table 4.5-1 will be documented and reported in the annual report(s). Activities have the outcome level of 1, Documenting Activities, unless otherwise specified in Table 4.5-1. Element key indicators, indicated by checkmarks in Table 4.5-1, have outcome levels of 2 through 4, and will be used to demonstrate progress towards meeting the element goal. The work plan table also shows the schedule for the effectiveness assessment and the progression of the outcome levels.

Any change to the planned activities will be documented in annual work plan(s) and reported in the annual report(s). Results of the effectiveness assessment will be used to focus and modify activities for maximum environmental benefit.

The Municipal Operations Element is currently implementing effectiveness assessments at outcome levels 1 through 4. During past permit terms, the focus of this element had been on reviewing/documenting activities and training (outcome level 1) and quantifying amount of waste removed (outcome level 4) from the drainage collection system and from street sweeping operations.

During this permit term, the Municipal Operations Element will continue to utilize an implementation assessment approach in order evaluate the effectiveness of select activities to meet the element goal. An implementation assessment approach focuses on activities such as inspections, training, street sweeping, debris collection, and the development/implementation of pollution prevention plans. In order to advance other Municipal Operations Element key indicators from an outcome level 1, Documenting Activities, to higher outcome levels, the following key indicators will be used to assess effectiveness:

- Track the number of developed pollution prevention plans that are signed by authorized representatives acknowledging responsibility for implementation.
- Inspect Sacramento City facilities with pollution prevention plans to determine the effectiveness of BMP implementation by utilizing an effectiveness ranking system.
- Quantify the total amount of accumulated waste removed during street sweeping operations and cleaning operations of the drainage collection system.
- Track the increase in participation of Solid Waste customers in the voluntary green waste collection program.
- Survey staff's awareness of available BMPs and pollution prevention practices by utilizing results of quizzes conducted during training.

During this permit term, assessing the effectiveness of training activities and the development and implementation of pollution prevention plans will be emphasized. Surveys will be developed to assess staff's increase in awareness associated with training on relevant stormwater topics. The survey will be conducted twice in the permit term, and the first survey will be utilized as the baseline for effectiveness assessment. Site-specific pollution prevention plans for targeted facilities will also be developed and implemented. A database will be developed to track site-specific BMPs, inspections and the newly developed ranking system. This ranking system will consider the effectiveness of a particular BMP implementation practice and an evaluation of the potential for a discharge. BMPs implemented for activities associated with a higher potential of discharge will be weighted more than BMPs implemented for activities associated with a lower potential of discharge. For example, material storage inside a fixed structure will be given less weight than material storage exposed to rainfall.

Table 4.5-1

City of Sacramento Municipal Operations Element Activities Work Plan (2008-2013)

Element Goal: The goal of the Municipal Operations Element is to mitigate potential pollutants generated by municipal facilities and activities to the MEP.

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	Schedule/Target Outcome Level FY08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Spill Response												
See Section 4.6 - Illicit Discharge												
New Development and Construction Requirements for Municipal Capital Improvements Projects												
Continue to implement Development Standards and construction requirements as they apply to Municipal Capital Improvement Projects	D.10.a.ii., D.10.b.i., D.14.b., 8					⇔	⇔	⇔	⇔	⇔	⇔	
Pollution Prevention at City Facilities												
Develop SWPPPs for facilities with an Industrial General Permit and Facility Pollution Prevention Plans (FPPPs) for other targeted City facilities	D.10.a.iii., D.10.b.ii.					⇔	⇔					
Obtain approval of developed SWPPPs and FPPPs by responsible staff for implementation	D.10.a.iii., D.10.b.ii.	✓	Show plans are developed and have been signed by an authorized City representative acknowledging acceptance of responsibility for implementation	C, T	Initial audit data	⇔2	⇔2	⇔2	⇔2			
Establish inspection frequencies for each facility	D.10.a.iii., D.10.b.ii.					N/A	⇔					
Review and revise SWPPPs and FPPPs annually for the first three years of implementation	D.10.a.iii., D.10.b.ii.					⇔	⇔	⇔	⇔			
Develop and maintain database to track site-specific BMPs, inspections and effectiveness ranking system	D.10.a.iii., D.10.b.ii.					N/A	⇔	⇔	⇔	⇔	⇔	
Establish BMP implementation baseline data from observations collected during SWPPP/FPPP development	D.10.a.iii., D.10.b.ii.					N/A	⇔					
Conduct inspection at established frequencies and audit facilities for conformance with site-specific pollution prevention plans	D.10.a.iii., D.10.b.ii.	✓	Show an increase in the effectiveness ranking for all sites by the end of the permit term	C, T, I	Effectiveness rankings developed from conditions prior to pollution prevention plan development and implementation	⇔1	⇔1	⇔1	⇔3	⇔3	⇔3	
Evaluate maintenance practices of golf course ponds and other ornamental ponds during facility inspections, and document activities within pollution prevention plans	D.10.a.iii., D.10.b.ii.					N/A	⇔	⇔				
Landscape and Pest Management												
Continue developing and implementing integrated pest management (IPM) procedures for the City's landscape management area of responsibilities	D.10.a.iv., D.10.b.iii., D.27.a.i.					⇔	⇔	⇔	⇔	⇔	⇔	
Ensure pesticides storage, usage, and disposal practices are documented within selected FPPPs	D.10.a.iv., D.10.b.iii., D.27.a.i.					⇔	⇔	⇔	⇔			
Review structural IPM Implementation Plans developed by contracted Pest Control Operator	D.10.a.iv., D.10.b.iii., D.27.a.i.					N/A	⇔	⇔	⇔	⇔	⇔	once per permit term for each facility

Table 4.5-1

City of Sacramento Municipal Operations Element Activities Work Plan (2008-2013)

Element Goal: The goal of the Municipal Operations Element is to mitigate potential pollutants generated by municipal facilities and activities to the MEP.

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	FY08/09	Schedule/Target Outcome Level FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Storm Drain System Maintenance												
Continue implementing the inspection and cleaning schedule for drainage collection system	D.10.a.v., D.10.b.iv.	✓	Quantify total amount of waste removed within the entire drainage collection system, and estimate pounds of target pollutants removed	C, T, Q	Previous term's data	⇔4	⇔4	⇔4	⇔4	⇔4	⇔4	
Maintain "No Dumping" message on MS4 drain inlets	D.10.a.vi.					⇔	⇔		⇔		⇔	
Street Cleaning and Maintenance												
Continue to implement street sweeping program	D.10.a.vii., D.10.b.v.	✓	Quantify total amount of waste removed from street sweeping efforts, and estimate pounds of target pollutants removed	C, T, Q	Previous term's data	⇔4	⇔4	⇔4	⇔4	⇔4	⇔4	
Evaluate sweeping practices to determine improvements	D.10.a.vii., D.10.b.v.					N/A		⇔				
Continue to implement BMPs for activities involving street sweeper rinse water, saw cutting activities, street maintenance materials and waste, and concrete waste	D.10.b.v.					⇔	⇔	⇔	⇔	⇔	⇔	
Evaluate street maintenance practices to ensure proper management of materials and waste	D.10.b.v.					N/A					⇔	at least once per permit term
Curbside Green Waste Collection												
Continue implementing the Voluntary Containerized Green Waste Program	D.4.b., 10.a.vii.	✓	Increase participation in the voluntary program to 90% of customers (approximately 102,000)	C, T	50,000 Solid Waste Customers participating by end of Fiscal Year 2008	⇔3	⇔3	⇔3	⇔3	⇔3	⇔3	
Parking Facilities Maintenance												
Continue to maintain City-owned parking facilities to minimize the build-up and discharge of pollutants to the storm drain system	D.10.a.viii., D.10.b.vi.					⇔	⇔	⇔	⇔	⇔	⇔	
Evaluate Parking lot maintenance practices to determine improvements	D.10.a.viii., D.10.b.vi.					N/A				⇔	⇔	
Detention Basin Maintenance												
Review and revise targeted existing Adaptive Management Plans (AMPs) for water-quality detention basins	D.10.a.v., D.10.b.vii.					⇔	⇔	⇔	⇔	⇔	⇔	each plan once per permit term
Evaluate any chemical applications to wet basins and document BMPs implemented	D.10.a.v., D.10.b.vii.					N/A			⇔	⇔	⇔	
Develop and implement additional AMPs for targeted and newly constructed water-quality detention basins	D.10.a.v., D.10.b.vii.					N/A			⇔	⇔	⇔	
Provide support in the development of specific Lake Management Plans (LMPs) for new water-quality detention basins that will be managed by Home Owner Associations (HOAs)	D.10.a.v., D.10.b.vii.					⇔	⇔	⇔	⇔	⇔	⇔	
Evaluate LMPs with HOA representatives to determine revisions	D.10.a.v., D.10.b.vii.					N/A			⇔	⇔	⇔	

Table 4.5-1

City of Sacramento Municipal Operations Element Activities Work Plan (2008-2013)

Element Goal: The goal of the Municipal Operations Element is to mitigate potential pollutants generated by municipal facilities and activities to the MEP.

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	FY08/09	Schedule/Target Outcome Level FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Emergency Procedures												
Implement Sacramento Regional Fire/EMS Communications Center dispatch procedures to minimize environmental damage in emergency situations	D.10.a.ix.					⇔	⇔	⇔	⇔	⇔	⇔	
Review existing practices and develop a written response plan for fire flow discharges into the City's drainage system	D.10.a.ix.					N/A			⇔	⇔		
Non-emergency Fire Fighting Flows												
Review existing practices and develop written procedures for BMP implementation practices for non-emergency fire-fighting flows	D.10.a.ix.					N/A			⇔	⇔		
Training												
Provide regular training to targeted staff on relevant components of the SQIP, and evaluate awareness of BMP practices by conducting a survey twice in the permit term	D.10.a.x.	✓	Increase awareness of available BMPs and pollution prevention practices	C, T, S	First survey (FY 11/12)	⇔1	⇔1	⇔1	⇔2	⇔2	⇔1	

4.6 ILLICIT DISCHARGE ELEMENT

4.6.1 Goal

The goal of the Illicit Discharge Element is to abate, contain and/or clean up reported illicit discharges and connections to the storm drainage system.

POLLUTANTS ADDRESSED BY THIS ELEMENT

- **Hydrocarbon Products ***
- Automotive fluids
- **Sediment***
- Paint
- Concrete
- Other non-stormwater discharges

***Target pollutant for Sacramento area**

4.6.2 Evolution

During past permit terms, the Illicit Discharge Element:

- Established the legal authority of Sacramento City to prohibit illicit discharges and enforce those prohibitions;
- Established illicit discharge response and reporting procedures;
- Responded to reports of illicit discharges;
- Performed field work to clean and abate illicit discharges;
- Implemented household hazardous waste collection programs.

In 2004, Sacramento City revised the 1997 ordinance previously used for enforcement of stormwater regulations for use in Illicit Discharge enforcement.

Between FY 95/96 and FY96/97, Sacramento City conducted an extensive illicit connection screening program for all Sacramento City drainage basins. This investigation found only two illicit connections, subsequently removing both. Until FY06/07, Sacramento City conducted ongoing screening in several selected drainage basins during the dry season to identify any illicit connections but none were located. In FY07/08, Sacramento City ended specific illicit connection screening due to the lack of illicit connections found during previous years and the high cost of the screening program.

During the last permit term, Sacramento City Stormwater Program Inspection staff conducted enforcement response in support of First Responder activities. Sacramento City staff also developed a database to track reports of illicit discharges and enforcement response to these reports.

A comprehensive list of accomplishments for this Element is provided in Appendix 4A.

In the 2008-2013 permit term, the database will be modified to allow for specific report queries to identify, where possible, high-priority areas within the City or high-priority groups of dischargers for future outreach efforts. Once the areas are identified, Sacramento City Stormwater Program staff will coordinate outreach and enforcement activities to address specific illicit discharge issues.

Sacramento City Stormwater Program staff will continue to provide annual training for Department of Utilities (DOU) Field Services staff regarding illicit discharge response activities and identification of potential illicit connections.

A more specific list of tasks and schedules is presented in Table 4.6-1, Illicit Discharge Element Activities Work Plan (2008-2013).

4.6.3 Strategy

The Illicit Discharge Element strategy includes the following components to achieve the goal of abating, containing and cleaning up reported illicit discharges and connections to the storm drainage system:

- Use an Illicit Discharge and Illicit Connection Communication and Response Plan as illustrated in Figure 4.6-1 on the next page.
- Annually evaluate complaints of illicit discharges to determine the most common types of discharges.
- Develop outreach materials to address these activities.
- Provide annual training to spill response personnel on their job duties.

4.6.4 Activities

A list of tasks and their associated schedule is presented in the Table 4.6-1 – Illicit Discharge Element Activities Work Plan (2008-2013), located at the end this section.

Legal Authority

Sacramento City's Stormwater Ordinance provides legal authority for regulating pollutant discharges to the storm drain system. This Stormwater Ordinance will be reviewed during the 2008–2013 permit term to ensure that pollutant sources from non-commercial activities are effectively addressed. Sacramento City Stormwater Program staff continues to provide enforcement of Sacramento City's Stormwater Ordinance using the Illicit Discharge and Illicit Connection Communication and Response Plan shown in Figure 4.6-1.

Illicit Connections and Discharges Response and Enforcement

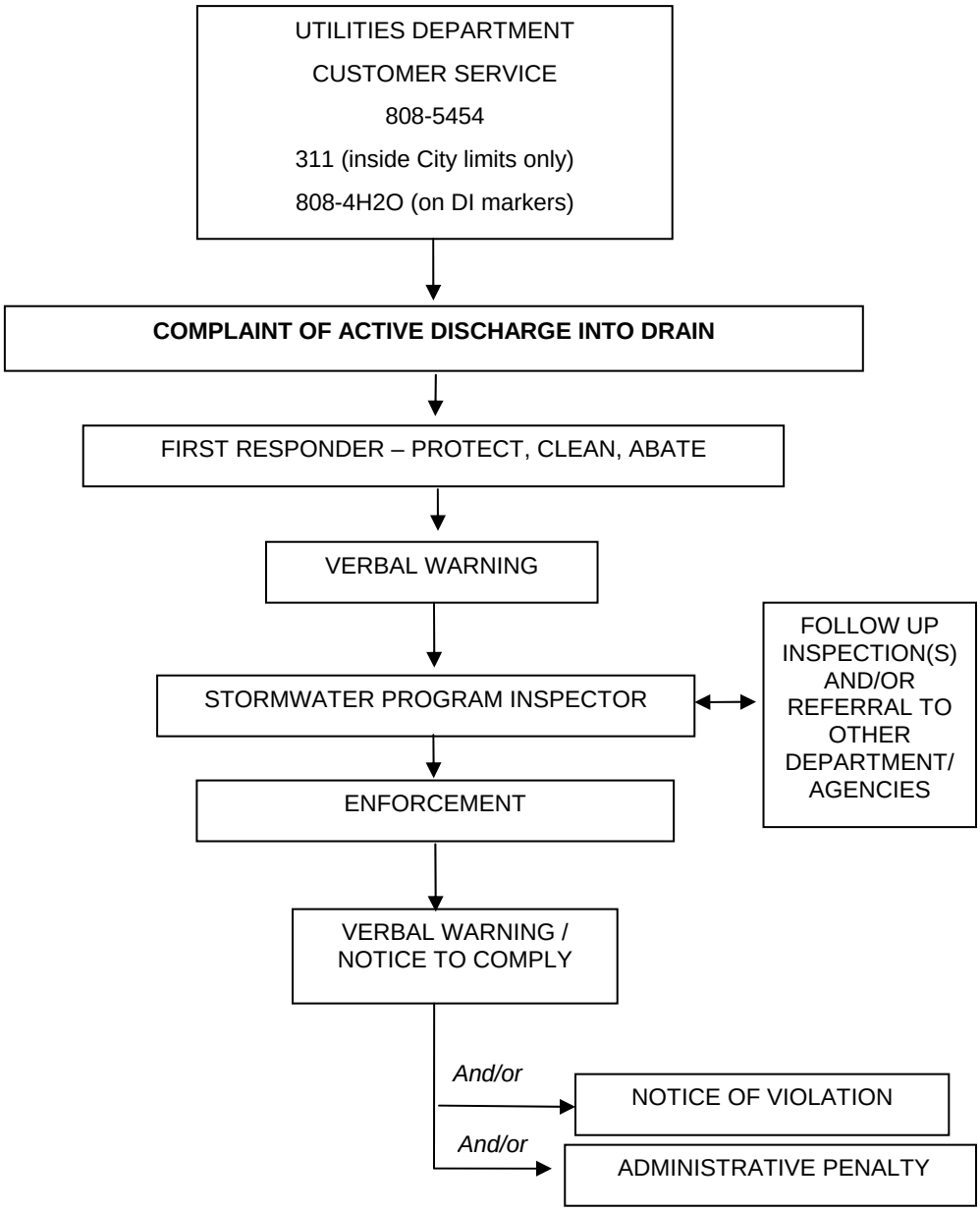
Sacramento City's outreach and maintenance practices are key components in the detection of illicit discharges and connections. Inspection, enforcement, and outreach efforts of the Commercial/Industrial, Construction, Public Outreach, and Municipal Operations programs all contribute to raising awareness about the prevention, detection and reporting of illicit discharges. When Sacramento City's DOU Field and Plant Services crews perform routine maintenance and inspections on the drainage collection system and the pumping stations, they investigate anything that looks out of the norm for possible illicit discharge and/or connection. During manhole inspections or any closed-circuit television (CCTV) surveillance of the drainage system, crews inspect for illicit discharges and illicit connections. If Sacramento City crews identify a new illicit connection, it is immediately eliminated. Drainage crews can plug the connection and initiate remediation and enforcement actions.

The Sacramento City DOU provides 24-hour, on-call, drainage maintenance staff and Sacramento City Fire Department Hazmat staff who respond to reports of illicit discharges draining into the storm drain system. DOU Field Services' Drainage Section has two First Responder teams responsible for investigating and containing illicit discharges. First Responders coordinate investigation and enforcement efforts with the Sacramento County Environmental Management Department (EMD), the Sacramento County District Attorney's investigator, Sacramento City's Fire Department, Sacramento City Stormwater Program inspection staff and/or other Sacramento City staff depending on the specific needs of the situation.

If the discharge is small and non-hazardous, then First Responders abate the discharge, clean the lines, and arrange for proper disposal of the discharged substance. If the discharge requires additional resources, then the First Responders contact additional City personnel and/or outside contractors. If the discharger is identified, the Sacramento City Stormwater Program Inspector conducts follow-up education and/or enforcement within five days of receiving the initial report.

Figure 4.6-1

2009 Illicit Discharge and Illicit Connection Communication and Response Plan



First Responders carry Sacramento City's Drainage/Sewer Mapbook in their vehicles to assist them in tracking a discharge to its source. This mapbook identifies the location of all drainage inlets, pipes, manholes, pump stations, outfalls, ditches, and all water bodies. Since many miles of drainage channels and underground pipes exist, staff also uses additional resources that further identify the drainage system's division into sub-drainage sheds. Drainage crews access the Computerized Maintenance Management System (CMMS). The CMMS contains the entire drainage infrastructure mapped using digital Graphical Information System (GIS) tools, allowing crews to look at any page in the Mapbook and electronically trace the flow. The CMMS enhances the crews' ability to perform inspections, do a condition assessment analysis, collect data electronically, and create Proposition 65 forms with attached work order numbers for ease of reference.

When a hazardous material emergency occurs, multiple resources are available. The Sacramento City Fire Department leads the response activities under the direction of the Sacramento County EMD. The Fire incident Commander-on-Scene directs the Sacramento Regional Fire/Emergency Medical Services Communications Center to dispatch City crews to contain and abate the illicit discharge. Also, the City's Environmental Health and Safety Office (EH&S Office) is notified if City crews have neither the training nor equipment required to handle the release. The EH&S Office can then authorize the use of a hazardous materials response contractor. If the discharger is identified, the Sacramento City Stormwater Program Inspector conducts follow-up education and/or enforcement. Enforcement actions include verbal warnings, notices to comply, notices of violation and administrative penalties.

Once the discharge is abated and cleaned up, the Sacramento City Stormwater Program Inspector may conduct follow-up inspections if there is concern of possible repeated discharges. The number of follow-up inspections and the length of time between follow-up inspections vary depending on the individual situation and the risk of possible repeat discharges. All initial and follow-up actions are entered into a Microsoft Access database used by the Illicit Discharge, Commercial/Industrial and Public Outreach Elements. During the 2008-2013 permit term, the database will be modified to allow element managers to identify geographic areas of the City, particular pollutants, or specific types of businesses that are repeat dischargers. Targeted outreach and/or enforcement campaigns will then be implemented to address these situations.

Public Outreach and Reporting

Sacramento City staff conducts several activities in addition to standard public outreach to help prevent illicit discharges, including:

- Promoting the City of Sacramento 311 Call Center, designed to provide a single point of contact for many Sacramento City services. "311" calls reporting an illicit discharge are routed to the proper department for a Sacramento City crew to respond, 24-hours a day, seven days a week.
- Maintaining the Public Stormwater Hotline at (916) 808-4H2O. Calling the hotline supplies them with general outreach information and also can connect them immediately to a Sacramento City operator to report an illicit discharge. The Hotline number is publicized on all stormwater outreach materials, including printed items, websites, stormdrain inlet permanent markers, and TV and radio media campaigns.
- Promoting and providing alternatives to the public for waste disposal such as the household hazardous waste (HHW) collection center located on Fruitridge Boulevard. This facility accepts waste from the public and from small quantity generators.
- Promoting and providing biweekly curbside pickup of used automotive oil and filters.

- Providing outreach materials on proper disposal of the types of hazardous wastes typically involved in illicit discharge reports at several Sacramento City public service counters, from Sacramento City Inspectors in the field, and from the Business Environmental Resource Center (BERC).

Training

Sacramento City Stormwater Program staff trains staff involved in the reporting, spill response, and clean-up of illicit discharges. Training covers the proper methods for receiving reports from the public and from other agency staff, initiating spill response and clean-up, and coordinating with other agency staff (e.g., Sacramento County EMD, Sacramento Fire Hazmat, etc). See Table 4.2-3 in Section 4.2, Program Management for a summary table of the various City departments identified for training and for the frequency of the training provided.

Trained staff includes:

- Sacramento City Operators/311
- Sacramento City Department of Utilities Field Service First Responders
- Sacramento City Department of Utilities Stormwater Inspectors
- Sacramento City Code Enforcement staff

4.6.5 Effectiveness Assessment

The Permittees' general approach to assessing the effectiveness of its stormwater programs is described in Section 2.3, Program Effectiveness. This section specifically describes the assessment activities and associated methods for evaluating the effectiveness of the Illicit Discharge Element.

Activities discussed above and listed in Table 4.6-1 will be documented and reported in the annual report(s). Activities have the outcome level of 1 – Documenting Activities unless otherwise specified in Table 4.6-1. Element key indicators, indicated by checkmarks in Table 4.6-1, have outcome levels of 2 and 4, and will be used to demonstrate progress towards meeting the element goal. The work plan table shows the schedule for the effectiveness assessment and the progression of the outcome levels.

Any change to the planned activities will be documented in annual work plan(s) and reported in the annual report(s). Staff will use the results of the effectiveness assessment to focus and modify activities for maximum environmental benefit.

The Illicit Discharge Element is currently implementing effectiveness assessments at outcome level 1 – Documenting Activities and level 4-Reducing Loads from Sources.

The focus during this permit term will be on assessing the effectiveness through the use of the following key indicators: preventing discharges to receiving waters, quantifying material prevented from entering receiving waters, quantifying the amount of oil collected and amounts of other HHW disposed of at Collection Centers, and increasing awareness of illicit response procedures through training surveys.

Table 4.6-1

City of Sacramento Illicit Discharge Element Activities Work Plan (2008-2013)

Element Goal: The goal of the Illicit Discharge Element is to abate, contain, and/or clean up reported illicit discharges to the storm drain system.

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	Schedule/Target Outcome Level						Due Date/ Status/Other Notes
						FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	
Legal Authority												
Review and revise existing Stormwater Ordinance	D.11.a.i					N/A		⇔				one year after SQIP approval
Reporting of Illicit Connections and Discharges Response and Enforcement												
Investigate reports of illicit connections and eliminate identified connections	D.11.a.ii-iv, 11.b.ii-iv					⇔	⇔	⇔	⇔	⇔	⇔	
Continue providing illicit discharge response and clean-up	D.11.a.ii-iv, 11.b.ii-iv	✓	Prevent discharges to receiving bodies to the MEP and quantify material prevented from entering receiving waters	C, T, I, Q	Percentage of potential discharges, and total amount, prevented from entering receiving waters during previous year	⇔	⇔4	⇔4	⇔4	⇔4	⇔4	
Investigate reports of illicit discharges (non-hazardous)	D.11.a.ii-iv, 11.b.ii-iv	✓	Initiate investigation within five (5) days of initial report	C, T	Percentage of potential discharges investigated within five (5) days of report during previous year	⇔1	⇔1	⇔1	⇔1	⇔1	⇔1	
Investigate reports of illicit discharges (hazardous)	D.11.a.ii-iv, 11.b.ii-iv	✓	Initiate investigation within one (1) day of initial report	C, T	Percentage of potential discharges investigated within one (1) day of report during previous year	⇔1	⇔1	⇔1	⇔1	⇔1	⇔1	
Issue enforcement actions	D.11.a.ii-iv, 11.b.ii-iv					⇔	⇔	⇔	⇔	⇔	⇔	
Maintain database of illicit discharge inspections and enforcement actions	D.11.a.ii-iv, 11.b.ii-iv					⇔	⇔	⇔	⇔	⇔	⇔	
Maintain map of illicit discharges to identify areas for targeted outreach	D.11.a.ii-iv, 11.b.ii-iv					⇔	⇔	⇔	⇔	⇔	⇔	
Public Outreach and Reporting												
Maintain public hotline (916) 808-4H2O for public reporting of illicit discharges	D.11.b.v					⇔	⇔	⇔	⇔	⇔	⇔	
Promote used oil curbside pickup program and use of Household Hazardous Waste (HHW) Collection Centers	D.11.b.v	✓	Quantify amount of oil collected and amounts of other HHW disposed of at Collection Centers	C, Q	Previous year's data	⇔4	⇔4	⇔4	⇔4	⇔4	⇔4	
Training												
Train City staff annually in proper methods for receiving and responding to illicit discharge reports to ensure minimum response time and maximum response effectiveness	D.11.b.vi	✓	Increase awareness of illicit responses procedures through training surveys	C, T, S	First survey (FY 10/11)	⇔1	⇔1	⇔2	⇔1	⇔2	⇔2	

4.7 Public Outreach Element

Public Outreach activities for Sacramento City are mostly conducted in conjunction with other Permittees.

Description of the Public Outreach element can be found in Chapter 2 – Partnership Activities, Section 2.6 – Regional Public Outreach.

Effectiveness Assessment of the Public Outreach Element is also included in Section 2.6.

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4.8 NEW DEVELOPMENT ELEMENT

4.8.1 Goal

The goal of the New Development Element is to protect local creeks and rivers by reducing the discharge of stormwater pollutants that can result from new developments to the Maximum Extent Practicable (MEP) and by mitigating increased flows that can cause erosion and degrade habitat. New developments may result in an increase in the total urbanized area, with an attendant increase in the overall load of pollutants discharged into local creeks and rivers; and an increased impervious area, with an attendant increase in the volume of stormwater runoff flows.

POLLUTANTS ADDRESSED BY THIS ELEMENT

- **Sediment***
- **Metals***
- Nutrients
- **Pesticides***
- **Hydrocarbon products***

***Target pollutant for Sacramento area**

4.8.2 Evolution

In past permit terms, the emphasis of the New Development Element has been to develop ordinances, design standards, guidance manuals, and maintenance protocols; and to incorporate these requirements into the development review process.

Currently, the development review process successfully integrates stormwater quality requirements into environmental documents, conditions projects during the entitlement process, incorporates control measures during the plan approval process, and requires maintenance agreements for privately maintained treatment control measures.

A comprehensive evaluation of the stormwater quality development standards, numeric sizing criteria, and planning procedures and policies was conducted in 2003 and submitted to the Central Valley Regional Water Quality Control Board (Regional Water Board) in the *Sacramento Stormwater Management Program Development Standards Plan* (DSP), which was approved by the Regional Water Board in May 2005. The updated development standards went into effect on May 18, 2006, and include eight categories of new development and redevelopment projects, corresponding source and treatment control thresholds, and revised numeric sizing criteria.

In addition, a regional *Stormwater Quality Design Manual for the Sacramento and South Placer Regions* (Stormwater Design Manual, available on the internet at http://www.sacramentostormwater.org/SSQP/documents/DesignManual/SWQ_DesignManual_May07_062107.pdf) was completed in May 2007, which replaces the *City of Sacramento Guidance Manual for On-Site Stormwater Quality Control Measures (January 2000)*. The regional Stormwater Design Manual was a collaborative effort between the County of Sacramento and the cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova, and Roseville. This manual includes the stormwater quality requirements for new development and redevelopment projects; low impact development strategies (i.e., runoff reduction control measures); and guidance for selecting, designing and maintaining stormwater source control, runoff reduction, and treatment control measures.

A comprehensive list of accomplishments for this Element is provided in Appendix 4A.

Currently, the New Development Element mitigates the effects of new development on stormwater quality with the installation and maintenance of source controls and structural control measures on both a regional scale, such as detention basins, and on individual properties, such as vegetated swales. Control measures referred to as treatment control measures in this report are essentially pollutant removal best management practices (BMPs).

Redevelopments are also part of this Element, because they offer opportunities to incorporate on-site controls using the same procedures established for new developments. The current stormwater quality requirements for new development and redevelopment are outlined in Table 3-2: Stormwater Quality Control Measure Selection Matrix in the Stormwater Design Manual.

In this permit term, Sacramento City Stormwater Program staff will continue implementing the revised development standards, resolving conflicts in City codes, conducting training and outreach, and improving the development review process to ensure that stormwater treatment controls are properly constructed and maintained. Sacramento City Stormwater Program staff will continue to improve the process requiring maintenance agreements for privately-maintained treatment control measures and ensure long-term performance of these measures through annual maintenance verification.

In addition, Sacramento City Stormwater Program staff will explore ways to integrate Low Impact Development (LID) principles into the planning and plan review process. Sacramento City Stormwater Program staff will work with the Permittees to develop a hydromodification management plan (HMP) and quantitative LID design criteria and implement these criteria for the regulated new development and redevelopment projects. Sacramento City Stormwater Program staff will also work with Permittees staff to develop a waiver program for new development and redevelopment projects where structural treatment control measures are infeasible.

A detailed list of tasks and schedules is presented in Table 4.8-1 – New Development Element Activities Work Plan (2008-2013).

4.8.3 Strategy

The New Development Element strategy includes the following components:

- Incorporate water quality and watershed protection principles into Sacramento City procedures and policies.
- Improve the development review process to ensure effective implementation of the development standards for new development and redevelopment projects.
- Implement stormwater quality development standards for all regulated new development and redevelopment projects.
- Ensure that standards and maintenance requirements are clear and effective.
- Require maintenance provisions for all privately maintained treatment control measures.
- Develop the hydromodification management plan and update the Stormwater Design Manual with new design criteria for hydromodification measures.
- Evaluate new technology and alternative control measures.
- Provide training and technical assistance to Sacramento City staff (planners, engineers, CIP project managers, building and construction inspectors, etc) on stormwater quality requirements and procedures to ensure effective implementation of stormwater quality development standards for municipal projects and private development projects.
- Provide training and outreach to the development community on the stormwater quality development standards.

4.8.4 Activities

A list of tasks and their associated schedule is presented in Table 4.8-1 – New Development Element Activities Work Plan, located at the end of Section 4.8.

Legal Authority

Sacramento City Stormwater Program staff will work to resolve conflicts in city codes as they are identified. Upon development of the Hydromodification Management Plan, the Stormwater Ordinance will be reviewed and revised to include new requirements for development projects.

Policy and Standards

Development standards include policies, ordinances and codes; planning practices; site design; source, treatment and runoff reduction controls; and maintenance requirements. Activities in those areas include:

- General Plan: On March 3, 2009, the City of Sacramento's City Council adopted the Sacramento 2030 General Plan (available on the internet at http://www.sacgp.org/). Sacramento City Stormwater Program staff will provide updates of any new requirements and criteria for water quality in future updates to the 2030 General Plan. Sacramento City Stormwater Program staff will continue to review the community plans to ensure implementation of the General Plan water quality protection policy.
- California Environmental Quality Act (CEQA) process: Sacramento City Stormwater Program staff will review and work with Sacramento City Planning Department staff to revise the environmental review procedures to ensure stormwater quality requirements are incorporated into environmental documents such as environmental impact reports (EIRs) and mitigation monitoring plans.
- Hydromodification: Sacramento City Stormwater Program staff will work with the Permittees to develop the Hydromodification Management Plan (HMP). As part of this HMP requirement, the HMP Work Plan was completed and is attached in Appendix 2B. Upon completion of the HMP, the Permittees will develop the design criteria for the hydromodification measures and quantitative and qualitative LID requirements for new development and redevelopment projects.
- Design standards and manual: The Stormwater Design Manual was completed in May 2007. Future updates to the standards and manual will be conducted upon approval of the HMP and new HMP standards and quantitative LID criteria will be included in the Stormwater Design Manual. Alternative and innovative control measures will be identified and evaluated through networking with other programs, product research, literature reviews, and BMP performance studies. The Stormwater Design Manual will be updated when new technical information, innovative technologies and new studies results for the control measures are available.
- Waiver Program: Sacramento City Stormwater Program staff will continue to work with the Permittees to develop a waiver program for projects where structural treatment control measures are infeasible. The Permittees will obtain Regional Water Board approval prior to implementation of the waiver program.

Development Standards Implementation

Development projects are required to address stormwater quality requirements during the entitlement process. Post-construction stormwater quality requirements are incorporated into environmental documents such as initial studies, environmental impact reports (EIRs), and mitigation monitoring plans; and standard conditions for entitlements such as tentative maps and special permits. Source controls and treatment controls are required to be incorporated in all new development and redevelopment projects as specified in Table 3-2 of the Stormwater Design Manual. Regional facilities will be incorporated as a part of large master-planned developments and, where feasible, will be integrated into new drainage basins and into retrofit projects constructed by the City of Sacramento. In areas without regional controls, treatment controls will be incorporated into the project and will be privately maintained.

Sacramento City Stormwater Program staff and/or Department of Utilities Development Review staff will continue to participate in the review of and comment on CEQA documents. Development review staff condition private development projects through the entitlement process. They will continue to require stormwater quality development standards including source control, runoff reduction and treatment control measures for all regulated projects. Sacramento City Stormwater Program staff will update the development review standard conditions to include new requirements on HMP and LID upon approval of the HMP.

Municipal project managers will be required to ensure that all regulated municipal projects incorporate source and treatment control measures through the development approval process and/or other municipal procedures. Construction inspection staff will ensure that regional control measures are properly constructed. Implementation of control measures and proper installation of treatment controls for municipal projects will be improved through annual staff training and cooperative efforts with the Municipal Operation Element.

Sacramento City Stormwater Program staff will provide technical assistance to the development community and other Sacramento City staff in selection and design of stormwater treatment control measures.

The Partnership website (www.sacramentostormwater.org) and Sacramento City's Stormwater website (www.sacstormwater.org) will be updated to include the new HMP and LID requirements when these requirements are completed and/or approved.

Maintenance Verification for Treatment Control Measures

Development review staff requires maintenance agreements for all privately maintained treatment control measures during the entitlement process and/or before issuing a permit. Private property owners are required to sign maintenance agreements with the City of Sacramento for all treatment control measures installed on their property.

Program staff will develop a self-verification checklist for proper construction of privately maintained stormwater treatment control measures. The design engineers will be required to provide a verification letter as proof of proper construction or installation of stormwater treatment control measures. Sacramento City Stormwater Program staff may conduct inspections during the installation and construction of the on-site treatment control measures or devices.

Sacramento City Stormwater Program staff will send out annual maintenance request letters to private property owners with stormwater treatment control measures and require maintenance documentation. Staff will review the maintenance reports, document maintenance information in the database and compile pollutant removal data if any is available. Staff will also follow up with non-respondents and with sites that send insufficient data to the annual maintenance survey. If maintenance problems are identified through inspection, notices will be sent out to the property owner(s) to address the issues and follow-up inspections will be conducted to ensure compliance.

Regional treatment facilities (i.e. water quality detention basins) are operated and maintained by Sacramento City. Detention basin maintenance is discussed in Section 4-5 Municipal Operations Element.

Sacramento City Stormwater Program staff maintains a Microsoft Access database of the on-site treatment control measures constructed by new development and redevelopment projects. This current database is designed to include the following information:

- Project address
- APN and property owner information
- Property contact for maintenance
- BMP information (type of device/measure, numbers of device(s)/measure(s))
- Agreement document information
- Annual maintenance request and reply tracking
- Maintenance verification tracking

This database will be improved to include additional information required under D.22.C.i of the Stormwater Permit. This database will also be expanded to include tools that can be used for effectiveness assessment of the Element.

The Sacramento City's Stormwater Program website will be updated with additional information on maintenance including photos, maintenance guidelines and illustrations.

Training and Outreach

Sacramento City Stormwater Program staff will conduct training and serve as a technical resource for municipal staff on proper design, construction, inspection, and maintenance of stormwater quality control measures and new technology. Sacramento City staff who are engaged in development planning, including development review staff, planners and project managers, will be trained annually on the stormwater quality standards. Sacramento City inspectors will be trained annually on how to inspect stormwater treatment control measures. See Table 4.2-3 in Section 4.2 – Program Management for a summary table of the various Sacramento City departments identified for staff training and the training frequency. Sacramento City Stormwater Program staff will improve department and inter-department communications by participating in regular staff meetings and being involved in the review process of large projects.

Sacramento City Stormwater Program staff will continue to improve the effectiveness of other Sacramento City staff training. Surveys and training questionnaires will be developed for targeted groups (i.e., Development review staff) to evaluate the effectiveness of the training and solicit comments for future training-focused areas.

Sacramento City Stormwater Program staff will conduct outreach to the development community to provide information and serve as a technical resource on policies, requirements, and new technology and practices. This will be accomplished through one or more of the following: workshops, presentations at professional organizations, newsletters, and fact sheets. Upon completion and approval of the HMP and LID criteria, a workshop will be conducted with the development communities and design/consulting engineers to provide information and education on the new requirements.

4.8.5 Effectiveness Assessment

The Permittees' general approach to assessing the effectiveness of its stormwater programs is described in Section 2.3, Program Effectiveness. This section specifically describes the assessment activities and associated methods for evaluating the effectiveness of the New Development Element.

Activities discussed above and listed in Table 4.8-1 will be documented and reported in the annual report(s). Activities have the outcome level of 1 – Documenting Activities unless otherwise specified in Table 4.8-1. Element key indicators, indicated by checkmarks in Table 4.8-1, have outcome levels of 2 through 4, and will be used to demonstrate progress towards meeting the element goal. The work plan table also shows the schedule for the effectiveness assessment and the progression of the outcome levels.

Any change to the planned activities will be documented in annual work plan(s) and reported in the annual report(s). Results of the effectiveness assessment will be used to focus and modify activities for maximum environmental benefit.

The New Development Element is currently implementing effectiveness assessments at outcome level 1 – Documenting Activities. Activities used in the past to assess the New Development Element's effectiveness included documentation of implementation activities such as the number of projects conditioned and treatment controls constructed, assessment of workshops through feedback on evaluation forms, and extensive research on treatment control measure performance. Some of the special studies conducted include the following:

- Stormwater interceptor and catch basin insert effectiveness study
- Dry extended detention basin effectiveness study (Brown Road Detention Basin)
- Vegetated swale effectiveness study
- Proprietary device effectiveness investigation
- Wet water quality detention basin study (North Natomas Basin 4) (ongoing)

Section 2.4 contains more information on the special studies conducted. Additional research will be conducted on proprietary treatment devices to investigate the performance and effectiveness of these alternative measures, see Section 2.4 Monitoring Program, Special Studies for more details.

During this permit term, the effectiveness assessment will focus on trainings and/or workshops (by utilizing results of quizzes); percentage of plans incorporating accepted treatment controls; percent of on-site treatment measures with design engineer's verifications; and/or the estimated load of pollutants removed by the installed treatment controls. Some of the baseline data will be developed from the existing New Development database.

Table 4.8-1

City of Sacramento New Development Element Activities Work Plan (2008-2013)

Element Goal: The goal of New Development Element is to protect local creeks and rivers by reducing the discharge of stormwater pollutants that can result from new developments to the MEP.

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	Schedule/Target Outcome Level						Due Date/ Status/Other Notes
						FY08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	
Legal Authority												
Resolve development requirements conflicts in codes when indentified	D.5, D.14 , D.15					⇔	⇔	⇔	⇔	⇔	⇔	
Revise existing Stormwater Ordinance and other city codes to incorporate requirements from Hydromodification Management Plan (HMP) and Low Impact Development (LID) strategies	D.5, D.14 , D.15					N/A		⇔	⇔♦			six months after HMP approval
Policy and Standards												
Review 2030 General Plan for compliance with NPDES Permit	D.16					⇔				⇔		
Review and update the environmental review procedures (i.e. CEQA Checklist)	D.21					⇔	⇔			⇔	⇔	FY2010 and upon HMP approval
Develop HMP work plan	D.15 c					♦						April 30, 2009
Submit revised HMP work plan	D.15 c						♦					September 22, 2009
Develop HMP - Applicability Mapping, Interim Criteria and Implementation Tools	D.15 c					N/A	⇔	⇔♦				one year after approval of HMP work plan
Amend development standards to require implementation of LID strategies for development projects	D.15 b					N/A		⇔♦				six months after HMP approval
Amend development standards to implement Interim HMP criteria	D.15 c					N/A		⇔♦				six months after HMP approval
Update Stormwater Quality Design Manual to integrate HMP and LID requirements	D.26					N/A			⇔♦			six months after amendment of development standards
Develop Hydromodification Susceptibility Mapping, Analysis and Design Tools and Amend HMP	D.15 c					N/A		⇔	⇔	⇔		12-18 months after approval of HMP per funding availability
Amend development standards and Design Manual to incorporate amended HMP analysis and design tools	D.15 c					N/A				⇔		six months after HMP amendment
Develop mitigation funding for regional control and develop infeasibility criteria for the waiver program	D.19, D.20					N/A		⇔	⇔	⇔		
Development Standards Implementation												
Participate in CEQA documents review and provide comments	D.17					⇔	⇔	⇔	⇔	⇔	⇔	
Review and condition regulated private development projects through the entitlement process	D.17					⇔	⇔	⇔	⇔	⇔	⇔	
Amend conditions of approval to incorporate HMP and LID requirements	D.15					N/A			⇔♦			Upon HMP approval

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City of Sacramento New Development Element Activities Work Plan (2008-2013)

Element Goal: The goal of New Development Element is to protect local creeks and rivers by reducing the discharge of stormwater pollutants that can result from new developments to the MEP.

Legend: C-Confirmation, T-Tabulation, S-Survey, I-Inspection, Q-Quantification, M-Monitoring; ⇔ Ongoing task; ♦ Permit Deliverable; # Outcome level

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	Schedule/Target Outcome Level						Due Date/ Status/Other Notes
						FY08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	
Incorporate proper regional facilities in development projects	D.14, D.22					⇔	⇔	⇔	⇔	⇔	⇔	
Require source control, runoff reduction and/or treatment control measures for regulated development projects	D.14, D.22	✓	All regulated development projects incorporate required stormwater treatment control measures per development standards	C, T	% of audited projects correctly incorporating the stormwater treatment controls	⇔1	⇔1	⇔3	⇔3	⇔3	⇔3	
Incorporate proper source control, runoff reduction and/or treatment control measures for regulated municipal CIP projects	D.14, D.22	✓	All regulated CIP projects include adequate stormwater control measures	C, T	% of audited CIP projects correctly incorporating the stormwater treatment controls	⇔1	⇔1	⇔3	⇔3	⇔3	⇔3	
Provide technical assistance to the development community and City staff on selection and design of stormwater treatment control measures for specific projects	D.22, D.26					⇔	⇔	⇔	⇔	⇔	⇔	
Update program website to include new criteria on HMP and LID requirements	D.26					N/A			⇔			after HMP approval
Maintenance Verification for Treatment Control Measures												
Require and process maintenance agreements for all treatment control measures on private property through the permitting process	D.18					⇔	⇔	⇔	⇔	⇔	⇔	
Develop and update field inspection checklist for maintenance verification of post-construction stormwater treatment control measures	D.22					⇔	⇔	⇔	⇔	⇔	⇔	
Develop self-verification checklist for proper construction of stormwater treatment control measures	D.22					N/A	⇔	⇔				
Obtain Design Engineer's certification/verification upon completing construction of the stormwater treatment control measures	D.22	✓	All treatment control measures are constructed per design as being verified by design engineers	C, T	% of treatment control measures with certification from design engineers	N/A	⇔1	⇔1	⇔3	⇔3	⇔3	
Send annual maintenance information request to property owners and record response	D.22					⇔	⇔	⇔	⇔	⇔	⇔	
Annually review maintenance reports	D.22	✓	All treatment control measures on private property are properly maintained	C, T	% of compliant responses to annual maintenance verification request	⇔1	⇔1	⇔1	⇔3	⇔3	⇔3	
Annually estimate pollutant removal from treatment devices	D.22	✓	Quantify the amount of pollutants removed from the stormwater treatment devices	C, T, Q	Accumulated pollutant load from previous year	N/A	⇔4	⇔4	⇔4	⇔4	⇔4	
Follow-up with sites that send insufficient maintenance verification or do not respond to the annual maintenance request	D.22	✓	Increase awareness of proper maintenance of stormwater treatment control measures and reduce % of inadequate and/or non-response	C, T, I	% of non-compliant responses and/or non-responses to annual maintenance verification request	⇔1	⇔1	⇔3	⇔3	⇔3	⇔3	